DOE/RL-2006-23 Revision 0

Calendar Year 2005 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report



FDMC

Prepared for the U.S. Department of Energy Assistant Secretary for Environmental Management



Approved for Public Release; Further Dissemination Unlimited

Calendar Year 2005 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report

Date Published April 2006

Prepared for the U.S. Department of Energy Assistant Secretary for Environmental Management



Release Approval Date 14/4/2006

Approved for Public Release; Further Dissemination Unlimited

DOE/RL-2006-23 Revision 0

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. subcontractors.

This report has been reproduced from the best available copy.

Printed in the United States of America

PRIMARY DOCUMENT STATEMENT

CALENDAR YEAR 2005 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

Approval of the U.S. Department of Energy's annual land disposal restriction report as a *Hanford Federal Facility Agreement and Consent Order* primary document shall be by written approval of U.S. Department of Energy and Washington State Department of Ecology Interagency Management Integration Team representatives.

This document has been prepared, submitted, revised, and approved as a primary document in response to the requirements of the Hanford Federal Facility Agreement and Consent Order milestone series M-26-01 and related Resource Conservation and Recovery Act of 1976 land disposal restrictions and Hanford Federal Facility Agreement and Consent Order requirements. As such, this document serves as a binding and enforceable document under the Hanford Federal Facility Agreement and Consent Order.

| Approved and issued this | day of _ | 2006. |
|--------------------------|----------|-------|

M.S. McCormick, Assistant Manager

for the Central Plateau U.S. Department of Energy, Richland Operations Office RL IAMIT Representative J. Hedges, Program Manager Nuclear Waste Program State of Washington Department of Ecology IAMIT Representative

R. J. Schepens, Manager U.S. Department of Energy, Office of River Protection ORP SEC Representative This page intentionally left blank.

CONTENTS

| | 1V |
|--|--------------------|
| METRIC CONVERSION CHART | |
| 1.0 INTRODUCTION | 1-1 |
| 1.1 CY 2005 LDR SUMMARY REPORT OVERVIEW | 1-2 |
| 1.2 SUMMARY INVENTORY OF WASTE TREATMENT GROUPS AND FORECAST | • |
| GENERATION RATES | |
| 1.3 POTENTIAL MIXED WASTE | 1-3 |
| 2.0 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL | |
| MIXED WASTE | 2-1 |
| 2.1 INTRODUCTION | 2-1 |
| 2.2 ASSESSMENT SCHEDULES | |
| 3.0 SUMMARY OF CHARACTERIZATION INFORMATION | |
| 4.0 SUMMARY OF TREATMENT INFORMATION | 4-1 |
| 5.0 STORAGE VOLUME AND CONTAINER NUMBERS FOR SELECTED STORAGE | E |
| LOCATIONS | |
| 6.0 REFERENCES | 6-1 |
| | |
| | |
| TABLES | |
| | • |
| | |
| Table 1-1. Stored Volumes of Mixed Waste and Generation Projections | 1-5 |
| Table 1-2. Treatability Group Summary of Storage, Characterization, Treatment, and Disposa | il Activities.1-10 |
| Table 1-3. Explanation of Table 1-4, Potential Mixed Waste. | 1-12 |
| Table 1-4. Potential Mixed Waste. | |
| Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table | |
| Table 2-1. Summary of DOE-RL Assessment Results. | 2-1 |
| Table 2-2. DOE-RL Assessments for CYs 2006 through 2008. | 2-2 |
| Table 2-3. Summary of DOE-ORP Assessment Results. | |
| Table 3-1. Summary of Characterization Information for Each Treatability Group | 3-1 |
| Table 4-1. Summary of Treatment Information for Each Treatability Group. | |
| Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations | 5-1 |

ACRONYMS

ALARA As Low As Reasonably Achievable

BDAT best demonstrated available technology

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act of

1980

CFR Code of Federal Regulations

CH contact handled

CH2M HILL CH2M HILL Hanford Group, Inc.

CWC Central Waste Complex

CY calendar year

D&D decontamination and decommissioning

DOE U.S. Department of Energy

DOE-ORP U.S. Department of Energy, Office of River Protection DOE-RL U.S. Department of Energy, Richland Operations Office

DST double-shell tank

Ecology Washington State Department of Ecology
EPA U.S. Environmental Protection Agency
ERDF Environmental Restoration Disposal Facility

ETF 200 Area Effluent Treatment Facility

FH Fluor Hanford FY fiscal year

HEPA high-efficiency particulate air (filter)

HLV high-level vault HLW high-level waste

HSTF Hexone Storage and Treatment Facility
HWTU Hazardous Waste Treatment Unit

IMUST inactive miscellaneous underground storage tank

LDR land disposal restrictions

LERF Liquid Effluent Retention Facility

LLBG Low-Level Burial Grounds

MLLW mixed low-level waste

MW mixed waste

NA or N/A not applicable

O/C organic/carbonaceous
ORP Office of River Protection

OU operable unit

PCB polychlorinated biphenyl PFP Plutonium Finishing Plant PMW potential mixed waste PMWT potential mixed waste table

PNNL Pacific Northwest National Laboratory
PSTF Purgewater Storage and Treatment Facility
PUREX plutonium-uranium extraction (process)

RADTU Radioactive Acid Digestion Test Unit

RCRA Resource Conservation and Recovery Act of 1976

REC radiochemical engineering cell REDOX reduction-oxidation (process)

RH remote handled

RLWS Radioactive Liquid Waste System

ROD record of decision

S&M surveillance & maintenance

SNF Spent Nuclear Fuel
SNM Special Nuclear Material

SST single-shell tank

Tri-Party Agreement Hanford Federal Facility Agreement and Consent Order (TPA)

TRU transuranic (waste)
TRUM transuranic mixed (waste)

TRUSAF 224-T Transuranic Waste Storage and Assay Facility

TSCA Toxic Substances Control Act of 1976
TSD treatment, storage, and/or disposal

WAC Washington Administrative Code

WESF Waste Encapsulation and Storage Facility

WHF waste handling facility

WIDS Waste Information Data System WIPP Waste Isolation Pilot Plant

WRAP Waste Receiving and Processing Facility
WSCF Waste Sampling and Characterization Facility

WSRd waste specification record WTP Waste Treatment Plant

METRIC CONVERSION CHART

Into metric units

Out of metric units

| | The region of the same of the same | and the second second second of | enile separation in a constant of the second | a a a company a comp | | | |
|-----------------------------------|--|---------------------------------|--|--|---------------------------|--|--|
| If you know | Multiply by | To get | If you know | Multiply by | To get | | |
| H-1847 | Length | | | Length | | | |
| inches | 25.40 | millimeters | millimeters | 0.03937 | inches | | |
| inches | 2.54 | centimeters | centimeters | 0.393701 | inches | | |
| feet | 0.3048 | meters | meters | 3.28084 | feet | | |
| yards | 0.9144 | meters | meters | 1.0936 | yards | | |
| miles (statute) | 1,60934 | kilometers | kilometers | 0.62137 | miles (statute) | | |
| | Area | | Area | | | | |
| square inches | 6.4516 | square centimeters | square centimeters | 0.155 | square inches | | |
| square feet | 0.09290304 | square meters | square meters | 10.7639 | square feet | | |
| square yards | 0.8361274 | square meters | square meters | 1.19599 | square yards | | |
| square miles | 2.59 | square kilometers | square kilometers | 0.386102 | square miles | | |
| acres | 0.404687 | hectares | hectares | 2.47104 | acres | | |
| | Mass (weight) | | | Mass (weight) | | | |
| ounces (avoir) | 28.34952 | grams | grams | 0.035274 | ounces (avoir) | | |
| pounds | 0.45359237 | kilograms | kilograms | 2.204623 | pounds (avoir) | | |
| tons (short) | 0.9071847 | tons (metric) | tons (metric) | 1.1023 | tons (short) | | |
| Volume | | | Volume | | | | |
| ounces (U.S., liquid) | 29.57353 | milliliters | milliliters | 0.033814 | ounces (U.S., liquid) | | |
| quarts (U.S., liquid) | 0.9463529 | liters | liters | 1.0567 | quarts (U.S., liquid) | | |
| gallons (U.S., liquid) | 3.7854 | liters | liters | 0.26417 | gallons (U.S., liquid) | | |
| cubic feet | 0.02831685 | cubic meters | cubic meters | 35.3147 | cubic feet | | |
| cubic yards | 0.7645549 | cubic meters | cubic meters | 1.308 | cubic yards | | |
| | Temperature | | | Temperature | , | | |
| Fahrenheit | subtract 32 then multiply by 5/9ths | Celsius | Celsius | multiply by 9/5ths, then add 32 | Fahrenheit | | |
| | Energy | | | Energy | | | |
| kilowatt hour | 3,412 | British thermal unit | British thermal unit | 0.000293 | kilowatt hour | | |
| kilowatt | 0.94782 | British thermal unit per second | British thermal unit per second | 1.055 | kilowatt | | |
| | Force/Pressure | <u> </u> | | Force/Pressure | | | |
| pounds (force) per square inch | 6.894757 | kilopascals | kilopascals | 0.14504 | pounds per square inch | | |

06/2001

Source: *Engineering Unit Conversions*, M. R. Lindeburg, PE., Third Ed., 1993, Professional Publications, Inc., Belmont, California.

CALENDAR YEAR 2005 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

1.0 INTRODUCTION

The information in the Calendar Year 2005 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report (CY 2005 LDR Summary Report) is prepared in accordance with Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) (Ecology et al. 2003a) Milestone M-26-01P. The CY 2005 LDR Summary Report reports on the status of Hanford Site land disposal restricted mixed waste, other mixed waste, and other waste the U.S. Department of Energy (DOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) have agreed to include in this report. The reporting period for this document is from January 1, 2005, to December 31, 2005.

The content and format for the CY 2005 LDR Summary Report was established in Tri-Party Agreement change request M-26-05-01 as a pilot activity for the CY 2005 reporting period. The following text has been reproduced from the change request for meeting Milestone M-26-01P:

"Submit an annual Hanford Land Disposal Restrictions Summary Report as a pilot project in accordance with the agreement requirements to cover the period from 1/1/2005 through 12/31/2005. The Hanford Land Disposal Restrictions Summary Report will contain the following elements taken from the Calendar Year 2004 Hanford Site Mixed Waste Land Disposal Restriction Report (DOE/RL-2005-23):

- Section 2.1: Summary inventory of waste treatment groups and forecast generation rates
- Section 3.0: Compliance assessments of mixed waste and potential mixed waste
- Section 3.1: Introduction
- Section 3.2: Assessment schedules
- Appendix C: Potential mixed waste
- Table 2-1: Stored volumes of mixed waste and generation projections
- Table 2-2: Treatability group summary of storage, characterization, and treatment activities
- Table 3-1: Summary of DOE-RL assessment results
- Table 3-2. DOE-RL assessments for Calendar Years 2005 through 2007 (updated for next three years)
- Table 3-3: Summary of DOE-ORP assessment results
- Table 3-4: DOE-ORP assessments for Calendar Years 2005 through 2007 (updated for next three years)
- Table 13-1: Summary of characterization information for each treatability group
- Table 14-1: Summary of treatment information for each treatability group.

In addition, the summary report will include a table containing the storage volume and the number of containers reported for the following Hanford site locations: CWC, LLBG, WRAP, PFP, T Plant Complex, WSCF, 325 HWTU, 324, 327, 200 ETF, and 222-S.

Following Ecology approval of the Hanford Land Disposal Restrictions Summary Report, Ecology and DOE will decide if and to what degree a summary report can be used to satisfy future annual land disposal restriction reporting requirements. If an agreement is reached on continued use of the summary report, a change request will be processed to implement any agreed upon changes."

1.1 CY 2005 LDR SUMMARY REPORT OVERVIEW

This report presents waste stream information provided in accordance with Section 6.1 of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan and supporting milestones and documentation. The waste streams reported under the Tri-Party Agreement include those described in the requirements of the Federal Facility Compliance Act of 1992 for U.S. Department of Energy sites that prepare a Site Treatment Plan along with other waste streams required under Tri-Party Agreement documentation. Although the Hanford Site is exempt from the requirements to prepare a Site Treatment Plan, the LDR Summary Report is considered equivalent to a Site Treatment Plan. The Federal Facility Compliance Act of 1992 was enacted, in part, to address the inability of some mixed waste to meet requirements of the storage prohibition in Title 40 Code of Federal Regulations (CFR) Part 268.50. Washington Administrative Code (WAC) 173-303-140, incorporates the federal storage prohibition by reference. EPA guidance (EPA 1990) indicates which mixed waste is subject to the storage prohibition.

Mixed waste is not subject to the storage prohibition until generated and managed in a 90-day accumulation area or a treatment, storage, and/or disposal (TSD) unit, or the waste is managed at a Hanford Site location managing mixed waste pursuant to the *Comprehensive Environmental Response*, *Compensation, and Liability Act* (CERCLA) of 1980 offsite rule (40 CFR 300.440). Although mixed waste managed in a 90-day accumulation area is not considered stored, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the 90-day accumulation area. Mixed waste is reported here as projected waste when the waste meets either of the following criteria.

- The waste has not been generated and therefore is not subject to the storage prohibition.
- The waste is managed in either a satellite accumulation area, a 90-day accumulation area, or is CERCLA mixed waste destined for treatment at the Environmental Restoration Disposal Facility (ERDF).

The CY 2005 LDR Summary Report provides aggregate waste stream data based on a set of waste treatability groups and also provides selected data on location-specific sources of waste as stated in the M-026-01P Milestone description. The waste from location-specific sources is included in the appropriate treatability groups. Per agreement with Ecology on February 6, 2003, mixed waste generated and sent directly to disposal does not need to be reported in the LDR report (Ecology et al. 2003b). If any storage of the mixed waste occurs, the mixed waste must be reported. Mixed waste currently in satellite accumulation areas or in 90-day accumulation areas is not considered current stored inventory, but is included as forecast waste generation.

Other materials, items, etc., currently on the Hanford Site that might be designated as mixed waste in the future, are described in Section 1.3, and are identified as potential mixed waste.

1.2 SUMMARY INVENTORY OF WASTE TREATMENT GROUPS AND FORECAST GENERATION RATES

The volume of mixed waste currently in storage and the volume projected to be generated and subsequently stored at Hanford during the next 5 calendar years are presented in Table 1-1. Mixed waste managed only in Hanford Site generator locations (satellite accumulation areas and 90-day accumulation areas), and then sent directly offsite for treatment are not reported. Table 1-2 presents an overall summary of the storage, characterization, treatment, and disposal activities for the treatability groups. Table 1-2 is a collection of information from the following three tables: Table 1-1; Table 3-1; and Table 4-1. Data on waste volumes in these tables are rounded to two significant figures. Stored waste

volumes are reported either by the actual waste volume or by the waste container volume. In general, stored waste volumes are reported by actual waste volume unless the data is obtained from the solid waste information tracking system.

The Waste Treatment Plant (WTP) is a new TSD unit being constructed to treat double-shell tank (DST) waste and single-shell tank (SST) waste. The WTP Project Management schedule projects that mixed waste will not be generated at the Waste Treatment Plant until after CY 2010, outside of the five-year forecasting window for this report. As agreed with Ecology at the January 17, 2006, LDR Project Manager Meeting, location-specific data sheets and/or treatability group data sheets for the Waste Treatment Plant will not be prepared for the CY 2005 LDR Report (Ecology et al. 2006).

1.3 POTENTIAL MIXED WASTE

The potential mixed waste table (PMWT) (Tables 1-3 through 1-5) includes materials that have not been generated as mixed waste and waste that has not been actively managed as mixed waste. The materials included are those that reasonably could be expected to be generated as mixed waste at some future time. The materials included in the PMWT (equipment, piping, etc.) are those that currently are not being used and do not have a clear path for reuse or recycling. The waste that has not been actively managed as mixed waste is, in many cases, at *Resource Conservation and Recovery Act* (RCRA) of 1976 or CERCLA past-practice units under the Tri-Party Agreement. Past-practice waste is waste that was abandoned before the first effective LDR date in Washington State, August 19, 1987. Classification of waste management units as RCRA or CERCLA past-practice units is described in Section 3.0 of the Tri-Party Agreement Action Plan. When cleanup actions occur in the operable unit for these past-practice units, mixed waste could, or is expected to be generated. The PMWT also includes a similar category of materials currently in standby for a potential future use. The table was developed for the following reasons:

- To acknowledge that materials might become mixed waste at a future date
- To begin identifying data gaps (e.g., whether the material would be designated as mixed waste) and facilitate discussions to establish a path forward toward disposition for those materials eventually identified as mixed waste.

As a result of discussions with Ecology and EPA, the following categories of materials have not been included in the PMWT.

- Generated mixed waste. This mixed waste is included in treatability groups and location-specific waste streams.
- Contaminated soil sites, cribs, ponds, ditches, trenches, etc., considered engineered disposal units.
 [However, the materials would be included in a LDR report location-specific waste streams when management or disposition activities associated with those units are expected to result in the generation of mixed waste requiring treatment in the next 5 years.]
- The building structures themselves, including contaminated walls, floors, floor sweepings, dust, etc. Building equipment, such as ventilation system components and building utilities that would be considered part of the structure, also is not included.
- Equipment and chemicals being used.

The PMWT includes information on the assessments performed or scheduled to meet the DOE assessment requirement of the LDR storage report. Section 2.0 provides more information concerning assessments.

The PMWT also includes known and proposed schedule information. This information can include the following, as applicable:

- Proposed dates for assessments
- Operable units that encompass the facility or unit
- Existing documentation and milestones or schedules that indicate plans that will address the potential mixed waste (PMW)
- Date to complete data gap plan
- Start date for major negotiations such as facility transition or deactivation.

| | Table 1-1. Stoled volumes of Mixed waste and Gel | icianon i i | | | | - | - The second second |
|----------------------------------|--|-------------------------------|--|--|--|--|----------------------------------|
| Treatability Group Name | Description [†] | Current Inventory (m³)² | Generation Projection 2006 (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Projection 2009 (m ³) ² | Generation Projection 2010 (m³)² |
| 221-T Containment Building | Equipment (e.g., jumpers, tanks, centrifuges, etc.,), other debris (e.g., pieces of concrete, etc.), and nondebris (e.g., sandblasting grit) generated during canyon deck and/or process cell cleanout, or from treatment and/or decontamination activities. | 58 | 0 | 0 | 0 | 0 | 0 |
| 221-T Tank System | Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations) | 12 | 0 | 0 | 0 - | 0 | Ö |
| 222-S Laboratory Complex | This waste stream consists of many different inorganic and organic solids and liquids that are RCRA regulated or have been contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris. | 8.7 | 11 | 11. | 11 | 1.1 | |
| 222-S T8 Tunnel | Debris that has contacted waste from the 219-S WHF tank system. The debris is designated as RH MLLW as a result of this contact. | 0.20 | 0 | 0 | 0 | Ö | 0 |
| 241-CX Tank System | Residual tank waste resulting from REDOX, PUREX, and Semiworks processes. | 3.0 | 0 | 0 | 0 | 0 | 0 |
| 324 Bldg. REC Waste | Radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue will be generated from the future REC decontamination and deactivation activities. | 5.0 | 0 | 5.0 | 5.0 | 0 | 0 |
| 325 HWTU | This waste stream consists of many different inorganic and organic solids and liquids contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris. WSRds in this waste stream: PNNL-930-05 and PNNL-931-04. | 8.3 | 4 | 4 | 4 | 4 | 4 |
| B Plant Cell 4 | Waste resulted from WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris). No additional waste will be stored in this location as the B Plant Complex is under long-term S&M. | 1.4 | 0 | 0 | 0 | 0 | 0 |
| B Plant Containment Building | Stream consists of failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon. Contaminated debris/equipment derived from the processing of "F" listed wastes for the recovery of strontium and cesium. Also contains elemental lead used for counterbalances and shielding. No additional waste will be stored at this location. The B Plant Complex is under long-term S&M. | 290,000 kg | 0 | 0 | 0 | 0 | 0 |
| Cesium and Strontium Capsules | Cesium and strontium were reclaimed from Tank Farm waste as a product, separated and purified at B Plant, and converted to dry salt for storage at WESF. The cesium and strontium capsules were declared waste in 1997 with the application for a Part A, Form 3, permit application. The subject waste consists of 1,335 cesium capsules and 601 strontium capsules. The capsules are stored in pool cells at WESF. | 2.0 | 0 | 0 | 0 | 0 | |
| DST Waste | Basic aqueous solution that might contain suspended material and/or settled solids (sludge and saltcake). Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Waste has been stored in the DST System from 1970 to the present. | 98,000 | 38 | 38 | 38 | 38 | 38 |
| ERDF—"Treatment | Mixed waste that requires treatment prior to disposal at ERDF. The waste is stored at the operable unit, and is shipped to ERDF where waste treatment and/or disposal | 83 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 |
| l ' | loccurs. | | i | | ł | 1 | l |

5

| | rable 1-1. Stored volumes of Mixed waste and Ger | ioration i i | | | | I | |
|---|---|-------------------------------|--|--|---|--|---|
| Treatability Group Name | Description ¹ | Current Inventory (m³)² | Generation Projection 2006 (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m³)² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m³) ² |
| LERF/ETF Liquid Waste | CERCLA and RCRA aqueous wastewaters are sent to the LERF/ETF for treatment and disposal. | 37,000 | 84,000 | 84,000 | 84,000 | 82,000 | 4,400 |
| MLLW-01 — LDR Compliant Waste | WSRds: BLS, EH3, EHM, EHR, EHB, EHD, H3L, EHS, 903, 930, 931. Waste with WSRd BLS consists of soils (dirt, sand, gravel, rocks, etc.) excavated from the various waste tank farms. The waste was incidentally contaminated with tank waste; therefore, the waste is designated with F001 through F005 based on the "contained-in" policy. The waste is typically packaged in drums and boxes. Remaining WSRds include waste that consists of soils (dirt, sand, gravel, rocks, etc.), treated debris, other particulates, and solidified liquids. All waste forms are | 210 | 15 | 13 | 45 | 52 | 24 |
| | anticipated to contain LDR compliant levels of dangerous waste constituents. Subject waste also includes the currently stored inventory of LDR compliant wastes and the forecast LDR compliant waste that comes directly from the generator (e.g., debris waste items, deactivated waste, stabilized waste, and waste meeting LDRs as generated). | | | | | | |
| MLLW-02 - Inorganic Non-Debris | This treatability group is for non-debris waste that contains hazardous constituents that either requires non-thermal treatment (specified technology) or non-thermal | 280 | 11 | 4.3 | 4.7 | 2,4 | 2.1 |
| | treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards). The applicable WSRds for this treatability group are: ALI, EH4, EHP, H3C, H3G, H3M, H3S, IXI, LPI, PAI, SSA, 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, | | | | | | |
| | sludges, resin beads, soils) and labpacks that are contaminated with regulated metals and other inorganics. This waste treatability group does not include hazardous debris other than incidental debris material commingled with the non-debris. Mixed waste generated from closure of the 183-H Solar Evaporation Basins is planned for treatment at ERDF. The volume of waste that will be treated at ERDF is included in storage inventory being reported on the location-specific | | | | | | |
| T. T. N. J. O. S. C. S. | data sheet for CWC under treatability group MLLW-02. | 046 | 10 | | 10 | 7.0 | 6.0 |
| MLLW-03 - Organic Non-Debris | This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards). Stabilization of the thermal treatment residue may also be required. The applicable WSRds for this treatability group are: ALO, IDW, IXO, LPA, LPO, PAO, SOC, SOE, SOW, TFS, TSC, 300, 301, 302, 303, 304, 305, 310, 311, 315, | 940 | 19 | 11 | 12 | 7.0 | 0.0 |
| | 320, 321, 330, 331, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 40A, 40B, 427, 429, 430, 431, 432, 43A, 43C, 45A, 46A, 47A, 500, 501, 502, 503, 504, 505, 50A, 50B, 50C, 520, 522, 52A, 53A, 700, 701, 720, 721, 90A, 920, 921, 922, 923. This waste stream consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soils) and labpacks that are contaminated with organic regulated dangerous waste constituents, including PCBs. This waste stream does not include hazardous debris other than incidental debris | | | | | | |

4

| galenteren (Millians) (millians) | Table 1-1. Stored Volumes of Mixed Waste and Ger | iciation i i | | | | | <u> </u> |
|--|---|-------------------------------|--|--|--|---|--------------------------|
| Treatability Group Name | Description ¹ | Current Inventory (m³)² | Generation Projection 2006 (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m³)² | |
| MLLW-04A - O/C | This treatability group is for waste that meets the definition of hazardous debris as | 4,100 | 49 | 44 | 53 | .56 | 46 |
| Hazardous Debris | defined in 40 CFR 268.2, and the waste contains physical and/or chemical constituents that meet the definition of organic/carbonaceous waste as defined in | | | | | | |
| | WAC 173-303-040. The physical characteristics include paper, plastic, wood, | | | | | | |
| | rubber, rags, and lesser quantities of metallic and inorganic waste components. | | | | | | |
| | Applicable WSRds may include: BAB, MGD, PFD, PUD, WDD, H3D, RCB, | | 1 | l | | | |
| | BLD, DBR, UUU, 334, 600, 601,603, 605, 606, 607, 60A, 60B, 620, 621, 622, 625, 626, and 627. | • | | | | | |
| MLLW-04B - Non-O/C | This treatability group is for waste that meets the definition of hazardous debris as | 15 | 0.2 | 0.2 | 0.2 | 0.2 | 0 |
| Hazardous Debris | defined in 40 CFR 268.2, and the waste does not contain physical and/or chemical organic/carbonaceous waste constituents in excess of 10% as defined in | | | | | | |
| | WAC 173-303-040. The physical characteristics include metals, inorganic debris | | | | | | |
| | items and lesser quantities of O/C waste components (paper, plastic, wood, etc.). | | | | | ٠. | |
| · | Applicable WSRds may include: ASB, 640, 641, 645, 646, and 647. | | | | | | |
| MLLW-05 - Radioactive | This treatability group is for waste that is determined to meet the "Radioactive Lead | 16 | 0.52 | 0.4 | 0.4 | 0.2 | 0 |
| Lead Solids | Solids Subcategory" as described in 40 CI/R 268.40. Applicable WSRds for this | | | | " | | |
| | treatability group are: EPB, 800, 801, 802, 803. This treatability group consists of | | | | | | |
| | many different forms of radioactive lead solids including bricks, sheets, shot-filled | | ļ | | İ | 1 | 1 |
| | blankets, lead-lined debris items where the lead comprises more than 50% of the | | | ł | | | |
| - | waste matrix. The waste was and is generated by many onsite generating | | ŀ | } | | | |
| 7. | organizations and offsite generators. | 1/ | 0.32 | 0.2 | 0.2 | 0 | 0 |
| MLLW-06 Mercury Wastes | This treatability group is for waste that is determined to meet the "Elemental | 16 | .0.32 | 0.2 | 0.2 | " | ' |
| • | Mercury Contaminated with Radioactive Materials" subcategory as described in 40 CFR 268.40. Applicable WSRds for this treatability group are: EHG, HHG, | I | ĺ . | ľ | 1 | ĺ | 1 1 |
| | 810, 811, and 812. This treatability group consists of liquid mercury, partially | | | | | | |
| | amalgamated mercury, mercury spill cleanups, and some debris waste items | | ļ | | - | Î | |
| | packaged in with the mercury waste. | | | | | | |
| MLLW-07 - RH and Large | WSRds: DBL, HRW, 450, 550, 650, All MLLW WSRds (except for 930 and 931) | 2,900 | 0 | 0. | 0 | 0 | 0 |
| Container | packages greater than or equal to 10 cubic meters, and All MLLW WSRds (except | • | | | | | |
| | for 930 and 931) with high Rad Waste defined per the Treatability Group | | | | | | |
| | Cross-Matrix. This waste stream is comprised of RH-MLLW with various chemical | | | | | 1 | |
| | (organics, inorganics, metals) and physical (particulates, debris, sludges, etc.) | | | | ĺ | ľ | ! ' |
| | characteristics. Many different regulated constituents could be represented in this | | · | | | | ' |
| | waste stream; however, the primary waste type is heterogeneous debris from the | | | | i | 1 | |
| · | SST/DST Systems operations. This waste stream also contains waste in oversized | | | | | | |
| | containers, not typically suited for commercial treatment that will be treated using the M-91 MLLW capability. | | 1 | | | 12 | • |
| MLLW-08 - Unique Waste | WSRds: BER, 821, 823, 84A. This waste stream consists of unique wastes that | 21 | 0 | 10 | 0 | n | 0 |
| with w-06 - Omque waste | require special processing not typically employed for the other MLLW waste | 41 | l ' | " | " | O, | |
| | streams. Example includes beryllium powder, requiring RMETL or RTHRM. See | | | | | | į |
| | 40 CFR 268.42 for the definitions of RMETL or RTHRM. | | | | | ĺ | . |
| | TO SOCIETY OF THE STATE OF THE | | <u> </u> | | | · · · · · · · · · · · · · · · · · · · | أعسم وروس ومنسسم مرسونها |

| W-47/2 | Table 1-1. Stored Volumes of Mixed waste and Gel | iciamon i i | | 4 | | | |
|--------------------------------|--|-------------------------------|--|-------------------------------------|--|--|--|
| Treatability Group Name | Description ¹ | Current Inventory (m³)² | Generation Projection 2006 (m ³) ² | Projection 2007 (m ³) 2 | Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Projection 2010 (m ³) ² |
| MLLW-09 – Radioactive atteries | WSRds: BAT and 830. This waste consists of mercury, silver and cadmium batteries from various onsite locations and from offsite generators. | 13 | 0.32 | 0.2 | 0.2 | 0 | 0 |
| MLLW-10 - Reactive Metals | WSRds: ENA, 44A, 44B, 820, 822, 82A. This waste consists of water-reactive metals and compounds, typically including sodium metal. May also consist of water-reactive cyanides. | 26 | 0.001 | 0.001 | 0.001 | 0.001 | 0 |
| PUREX Plant | Concrete rubble contaminated with trace chromium as a corrosion product. No additional waste will be stored at this location as the PUREX Plant is under long-term S&M. | 1.0 | 0 | 0 | 0 | 0 | 0 |
| PUREX Storage Tunnels | Varies from very large equipment vessels with lead counterweights to very fine mixed waste powder in canisters. Waste receipt into the TSD unit began in 1960. The TSD unit waste inventory list is contained in the Hanford Facility RCRA Permit, Attachment 28, Chapter 3.0, Waste Analysis Plan. Waste is expected to contain a combination of TRU and TRUM. | 2,800 | 0 | 0 | 0 | 0 | 0 |
| Purgewater | Groundwater contaminated with various constituents. | 3,700 | 2,500 | 2,500 | 2,500 | 2,500 | 0 |
| SST Waste | Basic aqueous slurry with layers of saltcake and/or sludge. The sludge consists of solids (i.e., hydrous metal oxides) precipitated from the neutralization of acid waste. The saltcake consists of the various salts formed from the evaporation of water. | 11,000 | 0 | 0 | 0 | 0 | 0 |
| TRUM-CH Standard Processing | The waste came from various facilities on and off the Hanford Site. The waste contains plastic/polyurethane, rubber, iron-based metal, soil, paper, cardboard, lead, rags, cement, stainless steel, wood, styrofoam, glass, absorbent/kitty litter, filters, lead shielding, carbon steel, fiberglass, brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos, aluminum, diatomaceous earth, resins, copper metal, lead, water, floor sweepings, batteries, leather, liquid, teflon, cork, cotton, light bulbs, urethane and wax. Waste packages in this treatability group include containers up to 55-gallons and WIPP Standard Waste Boxes. Any other package size is included in the TRUM-CH Special Processing treatability group. Note that some TRUM-CH containers will be found to be TRUM-RH upon repackaging or processing of the waste. | 3,400 | 20 | 6.6 | 1.6 | 1.0 | 26 |
| TRUM-CH Special Processing | TRUM waste from various generating activities around the Hanford Site. The waste contains metals including steel shielding, plastic/polyurethane, wood, paper/cardboard, glass, filters, soil, miscellaneous/unknown/other, rags, lead and lead shielding, plexiglas, styrofoam, asbestos, rubber, glass, sorbents/kitty litter, cement and concrete. Package size includes any CH TRUM waste that is not in a container up to 55-gallons in size or a WIPP Standard Waste Box. | 4,900 | 6.4 | 0 | 0 | 0 | 0 |

| Treatability Group Name | Description ¹ | Current Inventory (m³)² | Generation Projection 2006 (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m³)² |
|-------------------------|---|-------------------------------|--|--|--|--|---|
| TRUM-RH | The waste consists of inner container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from the clean-out of hot cells from research/development laboratories. The relative waste quantity is small, because the waste matrix contains a large percentage of lead and steel shielding materials. TRUM is considered remote handled if any waste component has a contact dose rate >200 mrem/hr. In addition, in order to provide an estimate of what might be remote handled, TRUM will be reported as remote handled if the package is known to contain lead shielding. | 230 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

Waste specification record (WSRd) indicates waste treatment and/or disposal pathway.

| Volume numbers have been rounded to two significant figurences. | es. |
|---|-----|
|---|-----|

| AOC | area of contamination | O/C | organic/carbonaceous |
|--------|---|-------|--|
| BDAT | best demonstrated available technology | OU | operable unit |
| CERCLA | Comprehensive Environmental Response, Compensation, and | PCB | polychlorinated biphenyl |
| | Liability Act of 1980 | PNNL | Pacific Northwest National Laboratory |
| CFR | Code of Federal Regulations | PUREX | Plutonium-Uranium Extraction (Plant) |
| СН | contact handled | RCRA | Resource Conservation and Recovery Act of 1976 |
| CSB | Canister Storage Building | REC | radiochemical engineering cells |
| CWC | Central Waste Complex | REDOX | Reduction-Oxidation (Plant) |
| D&D | decontamination and decommissioning | RH | remote handled |
| DST | double-shell tank | ROD | record of decision |
| ERDF | Environmental Restoration Disposal Facility | S&M | surveillance and maintenance |
| ETF | 200 Area Effluent Treatment Facility | SST | single-shell tank |
| НЕРА | high-efficiency particulate air | TRU | transuranic |
| HLV | high-level vault | TRUM | transuranic mixed |
| HWTU | Hazardous Waste Treatment Unit | TSCA | Toxic Substances Control Act of 1976 |
| IHLW | immobilized high-level waste | WAC | Washington Administrative Code |
| ILAW | immobilized low-activity waste | WESF | Waste Encapsulation and Storage Facility |
| LDR | land disposal restrictions | WHF | Waste Handling Facility |
| LERF | Liquid Effluent Retention Facility | WIPP | Waste Isolation Pilot Plant |
| MLLW | mixed low-level waste | WSRd | Waste Specification Record |
| | | | |

| | DOE/RL-2006 |
|--------|-------------|
| 0///00 | 5-23, Rev |
| 5 | · 0 |

| Treatability Group Name | Current | Projected | Planned Characterization | atment, and Disposal Activities Treatment Process | Projected Volume to be |
|--------------------------------|--|---|--|--|--|
| | Inventory (m ³) ¹ | Generation Volume 2006 through 2010 | Schedule | | Treated 2006 through 2010 (m ³) ¹ |
| | | $(m^3)^1$ | | | and the second s |
| 221-T Containment Building | 58 | 0 | Completed. | Not yet determined. | 0 |
| 221-T Tank System | 12 | 0 | Will be done in conjunction with T Plant Complex Canyon disposition. | Not yet determined. | 0 |
| 222-S Laboratory Complex | 8.7 | 45 | Ongoing. | Commercial - Stabilization, Commercial -Thermal | 54 |
| 222-S T8 Tunnel | 0.2 | 0 | Will be done in conjunction with 222-S Laboratory building disposition. | Not yet determined. | 0 |
| 241-CX Tank System | 3.0 | 0 | To be determined through development of 200-IS-1 documentation. | Not yet determined. | 0 |
| 324 Building REC Waste | 5.0 | 10 | Completed, | As neessary, ERDF macroensapsulation. | 0 |
| 325 HWTU | 8.3 | 20 | Ongoing. | HWTU, Commercial - Stabilization, Commercial - Thermal | 28 |
| B Plant Cell 4 | 1.4 | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| B Plant Containment Building | 290,000 kg | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| Cesium and Strontium Capsules | 2.0 | Ò | Completed. | Not yet determined. | 0 |
| DST Waste | 98,000 | 190 | Ongoing. | WTP vitrification. | 0 |
| ERDF—Treatment | 83 | 63,000 | Ongoing. | ERDF treatment. | 63,000 |
| HSTF | 2.1 | 0 | To be determined through development of 200-IS-1 documentation. | Not yet determined. | 0 |
| LERF/ETF Liquid Waste | 37,000 | 340,000 | Ongoing. | ETF. | 340,000 |
| MLLW-01 – LDR Compliant Waste | 210 | 150 | Completed. | No treatment required. | No treatment required. |
| MLLW-02 - Inorganic Non-Debris | 280 | 25 | M-091-42 ² | Commercial-Stabilization. | 310^{3} |
| MLLW-03 - Organic Non-Debris | 940 | 48 | M-091-12, M-091-12A, and M-091-42 ² | Commercial-Thermal. | 1,200³ |

Table 1-2. Treatability Group Summary of Storage, Characterization, Treatment, and Disposal Activities.

| Treatability Group Name | Current | Projected | Planned Characterization | Treatment Process | Projected Volume to be |
|-------------------------------------|-----------|--------------|------------------------------------|--------------------------------|--|
| | Inventory | Generation | Schedule | | Treated 2006 through |
| | $(m^3)^1$ | Volume 2006 | | | $2010 (\text{m}^3)^1$ |
| | | through 2010 | · | · · | |
| | | $(m^3)^1$ | | | A STATE OF THE STA |
| MLLW-04A - O/C Hazardous Debris | 4,100 | 250 | M-091-42 ² | Commercial-Thermal. | 4,400 ³ |
| MLLW-04B - Non-O/C Hazardous Debris | 15 | 0.8 | M-091-42 ² | Commercial-Macroencapsulation. | See MLLW-04A |
| MLLW-05 – Radioactive Lead Solids | 16 | 1.5 | M-091-42 ² | Commercial+Macroencapsulation. | See MLLW-04A |
| MLLW-06 - Mercury Wastes | 16 | 0.72 | M-091-42 ² | Commercial-Amalgamation. | 70 ³ |
| MLLW-07 - RH and Large Container | 2,900 | 0 | M-091-15 and M-091-43 ² | M-091-43. | 740³ |
| MLLW-08 - Unique Waste | 21 | 0 | M-091-42 ² | Not yet determined. | See MLLW-06 |
| MLLW-09 – Radioactive Batteries | 13 | 0.72 | M-091-42 ² | Not yet determined. | Sec MLLW-06 |
| MLLW-10 - Reactive Metals | 26 | 0.004 | M-091-42 ² | Not yet determined. | See MLLW-06 |
| PUREX Plant | 1.0 | 0 | To be determined via Tri-Party | Not yet determined. | 0 |
| | | | Agreement Action Plan, | | |
| | | | Section 8.0. | | A STATE OF THE STA |
| PUREX Storage Tunnel | 2,800 | 0 | To be determined via Tri-Party | Not yet determined. | 0 |
| | | | Agreement Action Plan, | | |
| | | | Section 8.0. | | |
| Purgewater | 3,700 | 10,000 | Ongoing. | Solar evaporation at PSTF and | 14,000 |
| | · | | | ETF treatment. | |
| SST Waste | 11,000 | 0 | Ongoing. | WTP vitrification. | 0 |
| TRUM-CH Standard Processing | 3,400 | 55 | M-091-42 ² | WRAP Facility and/or T Plant | M-091 ² |
| - | | | 1 | Complex. | |
| TRUM-CH Special Processing | 4,900 | 6.4 | M-091-44 ² | M-091 TRUM. | M-091 ² |
| TRUM-RH | 230 | 5.0 | M-091-44 ² | M-091 TRUM | M-091 ² |

Volume numbers in this table have been rounded to two significant figures. Due to rounding, the in some cases, the summation of Table 1-1 numbers do not add up to the numbers in

this Table.

² Characterization and Treatment will be performed in accordance with applicable M-091 milestones.

³ Volumes reflect FY2006-FY009 numbers. MLLW-04A, MLLW-04B, and MLLW-05 numbers are grouped together. MLLW-06, MLLW-08, MLLW-09, and MLLW-10 as also grouped together.

| CH DST ERDF ETF HSTF HWTU | contact handled double-shell tank Environmental Restoration Disposal Facility 200 Area Effluent Treatment Facility Hexone Storage and Treatment Facility hazardous waste treatment unit | LDR LERF MLLW O/C PSTF PUREX | land disposal restrictions Liquid Effluent Retention Facility mixed low-level waste organic/carbonaceous Purgewater Storage and Treatment Facility Plutonium-Uranium Extraction (Plant) | REC RH SST TRUM WIPP WRAP | radiochemical engineering cells remote handled single-shell tank transuranic mixed Waste Isolation Pilot Plant Waste Receiving and Processing Facility |
|--|--|---|---|--|--|
| - | | RCŘA | Resource Conservation and Recovery Act of 1976 | WTP | Waste Treatment Project |

Table 1-3. Explanation of Table 1-4, Potential Mixed Waste.

| | Table 1-3. | Explanation of Table 1-4, Potential Mixed Waste. |
|--------------|--|--|
| Column | Column Title | Content Definition |
| A | Company, project | Self-explanatory. |
| В | Common name | Self-explanatory. |
| Lapan Market | or description | |
| С | Facility number | Self-explanatory. |
| D | Solid waste with potential for mixed waste not integral to the building or structure (no use) | "Stuff" (e.g., equipment, materials) that is not currently in use and for which no future use is currently known, but for which the final disposition has not yet been determined. The "stuff" is not currently considered mixed waste and may or may not currently be contaminated, but includes items with the potential for becoming mixed waste, depending on future decisions regarding the ultimate use and disposition. "Stuff" integral to the building is not to be included. "None" in this column indicates the project/facility contains no "stuff" known to be in this category. |
| E | Materials with potential to become solid waste and subsequently mixed waste (in standby, possible use) | "Stuff" (e.g., equipment, materials) that is currently in "standby" and may at some point, if it becomes waste, designate as mixed waste. Provide details for standby equipment/material that has a clear use or path for reuse/recycling, but may at some point, if/when it becomes waste, designate as mixed waste. A future use must be documented for material to be included in column E of the Potential Mixed Waste Table. Documentation of the future use of items in column E shall be available upon request. Columns D and E encompass contents of buildings and structures only. Floor sweepings, dust, etc., are not included. The structures themselves, including contaminated walls, floors, etc., are not included. Equipment and chemicals that are in use are not included. |
| F | DOE assessment | Indicate when the DOE assessment for the purpose of meeting LDR |
| | of storage methods | report requirements is scheduled. Provide an alternative explanation if required (e.g., the assessment completion date, key facility in surveillance and maintenance phase, further DOE LDR assessment not needed). |
| G | Schedule information | Include schedule information relative to materials detailed in these columns. Include references to pertinent documents (closure plans, RODs) and identify any applicable operable units or other Tri-Party Agreement drivers for remediation. Provide a date for completing the data gap plan, if applicable. Also, for major negotiations related to the path forward for the potential mixed waste, such as the start of facility transition or deactivation, provide a date for starting the negotiations |
| 77 | * | with the regulators. |
| H | Integrating factors | Include factors that should be considered when determining when negotiations should occur. These include factors such as relative threat to human health and the environment of no action, ties to other activities such as operable unit remediation, ties of action to facility missions, etc. |

DOE/RL-2006-23, Rev. 0

Table 1-4. Potential Mixed Waste.

| A | В | С | D | Е | F | G | FI |
|---|---|----------------------|---|---|---|--|---------------------|
| Company, project | Common pame or description | | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOF assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford Inc. K Basin Closure Project | 100-K Area | 105-KE and 105-KW | 105-KE: Old electrical equipment, lead blankets 105-KW: None | 105-KE: Oil drained from equipment, chemicals in storage cabinets, and lead used as shielding for Ion Exchange Columns. 105-KW: Underwater lead and lead in the back of the utility truck. | quarter CY 2005 | Anticipated to be dispositioned by the end of FY 2007. Data gap Plan: Completed 2 nd quarter CY 2005 | None |
| Fluor Hanford, Inc., PFP Closure Project | 216-Z-9 Crib Soil Removal Glovebox (inactive) | 216Z9A | Soil Removal Glovebox. Air compressor (potential for regulated oil). Residual contamination within glovebox (potential for mixed wastes during cleanout). Note: Glovebox probably will function as containment when conducting facility cleanout/transition activities. | None | DOE assessment: Completed 3 rd quarter CY 2001 | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-41, Complete Transition and Dismantlement of the 216-Z-9 Crib Complex (due date: September 30, 2010) Data gap plan: NA Starting negotiations: NA (completed) | None |

) |------

DOE/KL-2006-23, Kev.

| Table 1-4. Potential Mixed Waste. | | | | | | | | | | |
|--|------------------------------|-----------------|---|---|---|--|--------------------|--|--|--|
| Λ | . В | С | D | Е | F | G | Н | | | |
| Company, project | Common name o description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | | Schedule information | Integrating factor | | | |
| Fluor Hanford, Inc., PFP Closure Project | Plutonium Finishing Plant | 234-5% | Radioactive Acid Digestion Test Unit (RADTU) Gloveboxes (potential for residual contamination during cleanout). Note: Gloveboxes to be maintained and used for containment when conducting facility cleanout/transition activities. | | | To be dispositioned as CERCLA non-time critical removal action. M-083-44, Complete Transition of the 234-5Z (Plutonium Conversion Facility) and ZA (Plutonium Conversion Support Facility), 243-Z Low Level Waste Treatment Facility, 291-Z Exhaust Building, and 291-Z-1 Exhaust Stack to support PFP Decommissioning, due September 30, 2015. Tri-Party Agreement milestone M-083-14, Complete 100% of the Legacy Pu Holdup Removal as Defined in the Legacy Pu Holdup Removal Plan for PFP required by MX-083-12-T01 (due date: September, 2006). Data gap plan: NA Starting negotiations: | None | | | |

Table 1-4. Potential Mixed Waste,

| A | В | С | D | Е | F | G | Н |
|--|--------------------------------------|-----------------|---|------|-----------------------------------|---|---------------------|
| Campany, project | Commen name or description | Pacility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOL assessment of storage methods | Schedule information | Integrating factors |
| Finor Hanford, Inc., PFP Closure Project | Plutonium Reclamation Facility | | Pu nitrate reclamation tanks, piping, and control equipment. Miscellaneous treatment tanks, piping, and control equipment. Containment gloveboxes (reclamation and miscellaneous treatment). Chem. prep tanks, piping, and control equipment. Residual contamination within inactive process equipment and gloveboxes (potential for mixed waste during cleanout). Potential for liquids within inactive tanks, vessels, and piping. Miscellaneous tools and maintenance equipment located within canyon cell. Note: Gloveboxes to be maintained and used for containment when conducting facility cleanout/transition activities. | None | quarter CY 2001 | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-43, Complete Transition of the 242-Z Waste Treatment Facility and 236-Z Plutonium Reclamation Facility to Support PFP Decommissioning (due date: September 30, 2013). Data gap plan: NA Starting negotiations: NA (completed) | None |

Α

Company, project

Fluor Hanford, Inc., PFP Closure Project

Fluor Hanford, Inc.,

PFP Settling Tank 241-Z-361

Tank containing waste from past

practices

DOE/RL-2006-23, Rev. 0 04/2006

date: September 30, 2011)

Data gap plan: NA
Starting negotiations:
NA (completed)

CERCLA remedial

Data gap plan: 1st quarter CY 2007

action during FY 2009 to

Starting negotiations:
NA. Characterization
completed ("Tank
Characterization Report
for 241-Z-361", FH
0107145, 12/20/01).

None.

DOE assessment: 1st To be dispositioned as

FY 2011.

quarter CY 2006

| | | Table 1-4. Potential Mixed Waste. | | | | | | | | | | | |
|---|-----------------------------------|-----------------------------------|---|------|--------------------------------------|---|---|--|--|--|--|--|--|
| 1190 | В | C, | D | E | F | G | Н | | | | | | |
| 1000 1000 1000 1000 1000 1000 1000 100 | Common name or description | | Solid waste, with potential for anixed waste, not integral to the building or structure (no use) | | DOE assessment of storage methods | Schedule information | Integrating factors | | | | | | |
| | MW Treatment and Storage Tanks | 2417. | Heels, associated piping, line flushing and sludge cleanout. Tank D-6 deactivated in 1972 because of failure. Waste transferred from tank and tank/piping isolated. | None | quarter CY 2001 | CERCLA non-time critical removal action. Tri-Party Agreement | Tank D-6 is not included in the 241-Z TSD Unit Closure Plan. There is a potential interface with the PFP Below Grade EE/CA. | | | | | | |

None

DOE/RL-2006-23, Rev. 0 04/2006

| A | В | С | D | E | F | G | H |
|---|--|-----------------|---|--|---|---|---------------------|
| Company. | Common name or description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., PFP Closure Project | Waste Treatment Pacility (inactive) | 242Z | Miscellaneous process tanks, first floor and mezzanine level. Process piping. Containment gloveboxes. Potential for liquids within tanks, vessels, and piping. Residual contamination within gloveboxes, tanks, and piping (potential for mixed waste during cleanout). | The second secon | No assessments. Facility is sealed currently because of high levels of radioactive contamination resulting from cation exchange column explosion, August 1976. DOE assessment: NA | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-43, Complete Transition of the 242-Z Waste Treatment Facility and 236-Z Plutonium Reclamation Facility to Support PFP Decommissioning (due date: September 30, 2013). Data gap plan: NA Starting negotiations: NA (completed) | None. |
| Fluor Hanford, Inc., PFP Closure Project | SNM Storage/ Repackaging | 2736Z. | None | Residues and low-grade SNM solids. | DOE assessment: Completed 3 rd quarter CY 2001 | Tri-Party Agreement milestone M-083-00A, Complete PFP Facility Transition and Selected Disposition Activities (due date: September 30, 2016). | None |
| Fluor F | | | | | | Data gap plan: NA Starting negotiations: NA (completed) | |

Table 1-4. Potential Mixed Waste.

DOE/RL-2006-23, Rev. 0

Table 1-4. Potential Mixed Waste. G H F E \mathbf{C} D Α В Materials, with potential Solid waste, with potential for mixed to become solid waste DOE assessment of Company. Common name o Schedule information Integrating factors Facility number waste, not integral to the building or and subsequently mixed storage methods project description waste (in standby, structure (no use) possible use) Rail car components (lead DOE assessment: None 212R Rail Spur. The equipment Rail Car Staging 4th quarter CY 2005 reuse/recycling program casks, liquids within the Fluor Hanford, Inc., D&D Project and PUREX Rail Area funding is no longer lead casks, bearings, and Cut available. Without future lubricants) funding, these materials will likely have to be disposed of as solid waste. Disposition options are being evaluated. Data gap plan: 4th quarter CY 2006 Starting negotiations: TBD Data gap plan: 4th None 212-R contains a burial box with some None DOE assessment: 200 North Area 212-N, 212-P, 4th quarter CY 2005 quarter CY 2006 radiologically-contaminated 212-R Fluor Hanford, Inc., D&D Project Starting negotiations: equipment. The 212-N transfer bay TBD contains 14 wooden boxes of suspected TRUM nuclear fuel fabrication equipment from the 308 Building, Room 213, moved in 1982. and a single wooden box from 308 Building, Room 212, transferred in 1983. No non-radioactive contamination has been identified in this facility that would support a MW designation. 212-P used to store PCBs. PMW will be evaluated in the

upcoming assessment.

DOE/RL-2006-23, Rev. 0

Table 1-4. Potential Mixed Waste.

| A | B | C | D | Е | F | G | H |
|-------------------------------------|---|--|--|---|---|--|--|
| Company, | Common name or description | | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | IMUSTs not associated with a building | 216-BC-201, 216-BY-201, 216-TY-201, 241-B-361, 241-U-361, 241-T-361 | Tank system heels in each IMUST | | DOE assessment; 2 nd quarter CY 2006 | Data gap plan: 2 nd quarter CY 2007 Starting negotiations: TBD | The IMUSTs will be dispositioned with their respective cribs. Further information regarding the remediation strategy can be found in DOE/RL-98-28, Rev. 0, 200 Areas Remedial Investigation/Feasibility Study Implementation Plan-Environmental Restoration Program. |
| Fluor Hanford, Inc., D&D Project | 224-T (Includes TRUSAF) | | D1: Potential for liquid in vessels. The presence or absence of mixed waste in the 224-T cells is not documented and the potential for waste was identified in the Silver List D2: There is a glovebox/hood with vessels in the glovebox/hood, but mixed waste is not expected to be found in these items. | | DOE assessment: Completed 1 st quarter CY 2002 | D1 and D2; Data gap plan: Completed 4 th quarter CY 2002 Starting negotiations: 2012 | The potential for MW presence in the cells is a former Silver List issue that has not been closed out. Facility decommissioning is being planned. |

Table 1-4. Potential Mixed Waste.

| A | В | C | D | E | F | G | H |
|--|-------------------------------|----------|---|---|-------------------|--|---|
| Company, project | Common name or description | | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOE aggreement of | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | 231Z | 231Z | Liquid in vessels and chemicals in gloveboxes. | None | | | The potential for MW to be present is a former Silver List issue that has not been closed out. Media that might designate as MW, if present, are expected to be contained in stainless steel vessels. It is assumed that the media, if present, are stable and pose no threat to human health or the environment. |
| Fluor Hanford, Inc., D&D Project | 242-B/BL | 242-B/BL | | Although no specific matrix can be identified at this time, a possibility exists that matrices could be found which would qualify as PMW. | quarter CY 2007 | Data gap plan: 1st quarter CY 2008 Starting negotiations: TBD | The lead bricks and shielding were removed in 2003. |

Table 1-4. Potential Mixed Waste.

| A | В | С | D . | E | F | G | H |
|--|-------------------------------|---|---|---|--|--|--|
| Company, project | Common dame or description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Finor Hanford, Inc., D&D Project | | 212-B, 217-B, 221-B, 221-BB, 221-BF, 221-BG, 271-B, 276-B, 291-BA, 291-B, 291-BB, 291-BD, 291-BF, 291-BG, 292-B, 2711-B, 2715-B, 270-E-1 (IMUST) | S&M Plan, DOE/RL-99-24, identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 270-E-1. | S&M Plan, DOE/RL-99-24, identifies the hazardous material remaining in the facility. | | D & E: As described in the S&M Plan, DOE/RL-99-24, Rev 0. Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | B Plant is in the S&M phase of the facility decommissioning process, as described in Chapter 8.0 of the Tri-Party Agreement. Final disposition of the IMUST and B Plant will be scheduled such that the activities are performed concurrently. See location-specific data sheets for details regarding waste stored in Cell 4 and in the containment building. |
| Fluor Hanford, Inc., D&D Project | 224-B Building | 224-В | Chemicals associated with operations at the 224-B Building may exist as residual deposition in tanks. Potential mixed waste remains in the 224-B process cells and vessels. | None | DOE assessment: 4 th quarter CY 2006 | Data gap plan: 4 th quarter CY 2007 Starting negotiations: TBD | Facility decommissioning is being planned. |

Table 1-4. Potential Mixed Waste.

| A | В | С | D | E | F | G | H |
|---|-------------------------------|---|--|--|--------------------------------------|--|--|
| Company. project | Common name or description | Facility number | Solid waste, with potential for mixed waste, not integral to the byilding or structure (no use). | | DOC assessment of storage methods | Schedule information | Integrating factors |
| and in communication of the Part (1972) | | | the hazardous material remaining in | | DOE assessment: NA | Data gap plan; NA Starting negotiations: Complete. Any | PUREX is in the S&M phase of the facility |
| | | 213-A, 214-A/B/C/D, 215-A, 216-A, 225-EC, 271-AB, 276-A, 281-A, | tank system and 216-A-5. | remaining in the facility. | | additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section | decommissioning process described in Chapter 8.0 of the Tri-Party Agreement. Final disposition of |
| Fluor Hanford, Inc., D&D Project | | 291-A, 291-AB/AC/AD/ AE/AG/AH/AJ/A K., 291-A-1, 292-AA/AB, | | | | 8.6.2. | the IMUST at PUREX will be scheduled such that the activities are performed concurrently. See the |
| r Hanford, Inc | | 293-A, A93-AA, 294-A, 295-A, 295-AA/AB/AC/ AD/AE, 296-A-1, 296-A-2, | | | | | location-specific data sheet for TSD waste storage at PUREX. |
| Fluo | | 296-A-3, 296-A-5A/5B, 296-A-6/7/8/9/10/ 14/ 24, 2711-A-1. 2712-A, | | | | | |
| | | 2714-A/U, 217-A, 252-AC/AB, 216-A-5 (IMUST) | | | | | |
| Fluor Hanford, Inc., D&D Project | | | the hazardous material remaining in the facility. | S&M Plan, DOE/RL-98-19, identifies the hazardous material remaining in the facility. | DOE assessment: NA | Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | REDOX is in the S&M phase of the facility decommissioning process described in Chapter 8.0 of the Tri-Party Agreement. |

Table 1-4. Potential Mixed Waste.

| Α | В | С | D | E | F | G | Н |
|----------------------------------|-------------------------------|---|---|--|--------------------------------------|----------------------|---|
| Gompany, project | Common name or description | -Pacility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | U Plant | 221-U, 276-U, 211-UA, 291-U, 292-U, 241-WR-001, 241-WR-003, 241-WR-004, 241-WR-005, 241-WR-006, 241-WR-007, 241-WR-008, 241-WR-009, 2716-U, 2714-U | S&M Plan, DÖE/RL-98-20, identifies the hazardous material remaining in the facility. | S&M Plan, DOE/RL-98-20, identifies the hazardous material remaining in the facility. | | 8.6.2. | The final disposition of 221-U, 276-U, and 291-U is being evaluated under CERCLA as a part of the Canyon Disposition Initiative. 275-UR and 2714-U, among others, are being dispositioned under a CERCLA action memorandum calling for demolition of the facilities. Final disposition of all of the U Plant structures will be coordinated as parts of the overall U Plant Area closure. |

Table 1-4. Potential Mixed Waste.

| A | В | C | D | Е | F | G | I I |
|----------------------------------|-------------------------------|-----------------|---|--|-----------------------------------|---|---|
| Company, project | Common name or description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | UO3 Facility | | S&M Plan, DOE/RL-98-22, identifies the hazardous material remaining in the facility. | S&M Plan, DOE/RL-98-22, identifies the hazardous material remaining in the facility. | | Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | The 272-U, 2715-UA, 203-U, and 2716-U, among others, were dispositioned under a CERCLA action memorandum calling for demolition of the facilities. 207-U is part of the 200-CW-5 CERCLA Operable Unit, and 270-U is part of the 200-PW-2 CERCLA Operable Unit. Final disposition of all parts of the UO3 Facility will be coordinated as parts of the overall U Plant Area closure. |

Table 1-4. Potential Mixed Waste.

| A | В | C | D | Е | F | G | <u>i</u> M. |
|---|---|-----------------|--|--|--|--|---|
| Company, project | Common name of description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., Waste Management Project | T Plant Canyon, RR Tunnel, Head-end | 221-T | process cells proposed to be cleaned, and process cells with potentially no proposed future uses. Inaccessible cells include: 20R, 20L, and 16L. Proposed cells to be cleaned include (subject to change): 19R, 18R, 10R, and 7R. Cells with potentially no proposed future uses include (subject to change): 19L, 18L, 17L, 14L, 12R, 12L, 9R, 8L, 6R, 4R, 4L, and 3R. Examples of inventory are jumpers, tanks, pumps, pump racks, centrifuges, fuel racks, fuel canisters, and agitators. | for reuse include cover blocks, lead shielding (including portable lead walls), hand tools and tool boxes, metal ramp, chokers and slings, hoists, railroad ties, portable fences, cutters (e.g., jaws), portable pumps and hoses, impact wrenches, spill pallets, HEPA vacuums, HEPA filter and duct work, torch cart and welding cart, work bench, portable exhauster, aqueous make-up tanks, drum crusher, plasma arc cutter. | DOE assessment: 3 rd quarter CY 2005 | Cells with no proposed future use will be addressed when final decommissioning of the canyon takes place. Data gap plan: 3 rd quarter CY 2006 Starting negotiations: Completed. These activities have been discussed with Ecology during the T Plant Complex Dangerous Waste Permit Application Part A and Part B negotiations. | T Plant received its first shipment of K-Basin North Loadout Pit Sludge on January 5, 2005. |
| Fluor Hanford, Inc., Waste Management Project | T Plant Canyon, Cell 11-L | 221-T | Tank in Cell 11-L. The cell 11-L tank contains approximately 500 gallons of a green liquid and saltcake mixture that will be designated as F001-F005, D002, D006, D007, D008, and D010 when removed from the tank. | None | DOE assessment: 3 rd quarter CY 2005 | Cell 11-L will be dispositioned along with the other RCRA-past practice process cells in the T Plant canyon. Data gap plan: 3 rd quarter CY 2006 Starting negotiations: Completed. These activities have been discussed with Ecology during the T Plant Complex Dangerous Waste Permit Application Part A and Part B negotiations. | Any commitment date will be dependent on the outcome of the Canyon Disposition Initiative. |

Table 1-4. Potential Mixed Waste.

| A | В | С | D | Е | F | G | H |
|---|--|--------------------------|--|---|---|---|--|
| ∋ompany, project | Common name or description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., Waste Management Project | T Plant Complex IMUSTs | 292-TK-1 and 292-TK-2 | 292-TK-1 and 292-TK-2 consist of two stainless steel 55-gallon drums encased in concrete. These units contained a mixture of irradiated fuel and nitric acid. The solutions in the tanks were then neutralized with molar equivalents of sodium hydroxide. | None | | CERCLA remediation activity. Data gap plan: 3 rd quarter CY 2006 Starting negotiations: | Tanks are part of CERCLA remediation process, scheduled for completion of Remedial Investigation/issFeasibility Study process by Dec. 2008. Prioritization discussions have taken place (4/23/01). |
| Fluor Hanford, Inc., Waste Management Project | Waste Neutralization Facility (340-Vault Tanks) | 340 | 340 Vault tank heels and clean out residues and associated equipment (valves, piping, pumps, light fixtures) may designate as MW. | None. | Comploted 4 th quarter CY 2004 | accordance with Tri-Party Agreement milestone M-094-00, Complete | The schedule information in Column G is subject to change in accordance with Section 12.0, Changes to the Agreement, of the Tri-Party Agreement Action Plan. |
| Battelle Memorial Institute, Pacific Northwest National | Radiochemical Processing Laboratory | 325 | Tank system formerly used for product materials subsequently used as feedstock for research projects. Tanks have been drained and flushed, but remain in place. | gloveboxes used for | DOE assessment: Completed 4 th quarter CY 2001 | Data gap plan: Completed 4 th quarter CY 2002 Starting negotiations: NA (no data gaps identified) | Part of an active facility; no special hazards known. |

DOE/RL-2006-23, Rev. (

Table 1-4. Potential Mixed Waste.

| Λ | В | С | D | Е | F | G | H |
|--|-------------------------------|--|---|------|---|---|---------------------|
| Company, project | Common name or description | Facility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOL assessment of storage methods | Schedule information | Integrating factors |
| CH2M HILL, Hanford Group, Inc., Tank Farms | 702-A Ventilation Building | 241-A-702 | Seal pot that received liquids from the HEPA pre-heater. | | DOE Assessment: Completed 4 th Quarter 2004 | Data gap plan: None, as sample analysis for similar ventilation systems indicate it is unlikely the heel in the seal pot will designate as mixed waste. Starting negotiations: NA. | None |
| CH2M HILL. Hanford Group, Inc., Tank Farms | Double-Shell Tank Farms | | Contaminated unusable equipment, e.g., ductwork, exhausters, piping, etc. | None | DOE Assessments: Continuing | Data gap plan: The equipment will be handled in accordance with the management procedure. Starting negotiations: NA. Equipment will be taken care of on a continuous basis. | None |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Single-Shell Tank Farms | 241-A, AX, B, BX, BY, C, T, TX, TY, S, SX, U, 244-AR, 244-CR | Contaminated unusable equipment, e.g., ductwork, exhausters, piping, ion exchange columns, etc. | None | DOE Assessments: Continuing | Data gap plan: The equipment will be handled per the management procedure. Starting negotiations: NA Equipment will be taken care of on a continuous basis. | None |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Evaporators | 242-S, T | Liquids/solids in process tanks and piping, debris | None | DOE Assessment: The assessment report had not been completed as of 4 th quarter CY 2005. | Data gap plan: Deferred until facility enters D&D due to industrial and radiological safety concerns with entering the portions of the facility necessary to gather meaningful data. Starting negotiations: NA. | None |

Table 1-4. Potential Mixed Waste.

| А | В | С | D | E | F | G | H |
|--|-------------------------------------|-------|---|------|---|---|--|
| Company. project | Common name or description | | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | | DOE assessment of storage methods | Schedule information | Integrating factors |
| Washington Closure Hanford, Environmental Restoration | 100-B Reactor Facilities | 105-B | Miscellaneous contaminated material remains in the facility. | | reactor. | Data gap plan: Completed 6/15/04 Starting negotiations: Approval of Tri-Party Agreement Change Request M-093-01-02 completed Tri-Party Agreement Milestone M-093-14, Initiate Negotiations for the Remaining Surplus Reactor Disposition Schedules. | The reactor is a key facility under Section 8.0 of the Tri-Party Agreement. |
| Washington Closure Hanford. Environmental Restoration | 100-KE and KW Reactor Facilities | | Miscellaneous contaminated material in the facility is being managed as part of surveillance and maintenance activities | None | Completed 6/15/04, Assessment excludes reactor: | Safe Storage activities. Data gap plan: Completed 6/15/04 Starting negotiations: Completed as a part of River Corridor negotiations. Tri-Party | The reactor is a key facility under Section 8.0 of the Tri-Party Agreement. Tri-Party Agreement Milestones M-93-21-T01 and M-93-22-T01 address Interim Safe Storage of 105-KW and 105-KE respectively. |

Table 1-4. Potential Mixed Waste.

| A | В | С | D . | Е | F | G | Н |
|--|-------------------------------|-----------------|---|--|---|---|---|
| mpany. roject | Common name or description | Pacility number | Solid waste, with potential for mixed waste, not integral to the building or structure (no use) | Materials, with potential to become solid waste and subsequently mixed waste (in standby, possible use) | DOL assessment of storage methods | Schedule information | Integrating factors |
| | 327 Building | 327 | None | Lead bricks being stored for future use as shielding during decontamination and decommissioning activities | DOE assessment: Completed December 2002 | Lead bricks are being stored for future use in decontamination and decommissioning activities. Data gap plan: Included | |
| Washington Closure Hanford, Environmental Restoration | | | | | | in the assessment report. Starting negotiations: NA Demolition required by | |
| | 333 Building | 333 | Miscellaneous equipment, piping, and | | DOE assessment: | 2010 per M-094-03. Cleanout schedule to be removal action #2 for the 300 Area. Potential MW disposition | |
| | | | ductwork | Materials will be evaluated in the future. | Initiated 1 st quarter CY 2003, and completed September 2003. | accordance with Tri-Party Agreement milestone M-094-03 (due | information in Column G is subject to change in accordance with Section 12.0, |
| Restoration | | | | | | 9/30/2010). Data gap plan: Completed September 2003 | Changes to the Agreement, of the Tri-Party Agreement Action Plan. |
| wasnington Ciostre Hantori, Environnental Restoration | | | | | | Starting negotiations: Completed during River Corridor negotiations. Facility is undergoing | |
| AA GESTA | | | | | | terminal cleanout and will be demolished by 2007 per action memorandum #1 to meet M-094-06 (proposed). | |

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| | Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table. | | | | | |
|---------------------------------|---|--|--|---|--|--|
| Common Name or Description | Facility Number | Last Calendar Year Reported in Table 1:4 | "Stuff"/Material Deleted | Reason for Deletion | | |
| 3711 Building | 3711 | 2004 | Lead cask, pipe, pipe joints and metal railing contaminated with lead | Matrices were disposed of in 2005. | | |
| 2711-E | 2711-E | 2004 | Radiator from crane-suspect lead solder | Matrices were disposed of in 2005. | | |
| U03 | 203-U, 2715-UA, 272-U | 2004 | Any matrices described in the UO ³ S&M Plan, DOE/RL-98-22 | 203-U, 2715-UA, and 272-U have been demolished as part of the CERCLA Removal Action. | | |
| U Plant | 2716-U, 275-UR | 2004 | Any matrices described in the U Plant S&M Plan, DOE/RL-98-20 | 2714-U and 275-UR have been demolished as part of the CERCLA Removal Action. | | |
| Heavy Equipment Staging Area | 47341) | 2004 | Heavy equipment components | Equipment is no longer cleaned at this location. | | |
| PFP Facilities | 232-Z, 236-Z, and portions of 234-5Z. | 2003 | Incinerator and leaching gloveboxes. Inactive process tanks, piping, and control equipment. Reclamation tanks, piping, and control equipment. Miscellaneous tools. | Materials have been dispositioned, did not meet the definition of PMW, or are forecasted to be generated as MW. | | |
| 340 Facility Complex | 340-A, 340-B, and 300 RLWS | 2003 | Tanks, process piping, ancillary equipment and related equipment. | Facilities did not contain MW or PMW | | |
| 100 Areas Facilities | Many | 2003 | Miscellaneous contaminated material | Facilities did not contain MW or PMW | | |
| 100-N Lead Storage Area | 1714-N | 2002 | Lead sheeting and bricks, lead lined containers, and a lead lined survey booth | Matrix is now included in the Location-Specific Data Sheet for CERCLA lead under the ERDF - Treatment treatability group | | |
| 242-A Evaporator | 242-A | 2002 | Ion exchange column(s) | The ion exchange column(s) were disposed onsite. | | |
| 314 | 314 | 2002 | Large equipment previously used in the facility | LDR assessment concluded facility contained no MW or PMW. | | |
| 3708 | .3708 | 2002 | Solid obsolete laboratory equipment | LDR assessment concluded facility contained no MW or PMW. | | |
| Heavy Equipment Staging Area | 2711E | 2001 | Miscellaneous equipment | No material left at this location, as it was shipped offsite for reuse. | | |
| Rad. Storage Area | 3711 | 2001 | Lead bricks | Shipped 9/26/01 to Duratek Inc. in Memphis, TN for decontamination/lead casting | | |
| Waste Storage Building | 2724WB | 2001 | Radiators (from motor vehicles) | Shipped 9/26/01 to Duratek, Inc in Memphis, TN for decontamination/metal melt | | |
| Plutonium Finishing Plant | 234-5Z | 2001 | E1: Laboratory Reagents E2: Archive Laboratory Samples E3: PR cans that have lead liners. E4: Low-grade SNM solutions not run through the precipitation process, but with potential to become solid waste (e.g. the direct discard process). | E1: These chemicals are in use within the laboratory. E2: Samples are archived in accordance with sample exclusion. E3 and E4: Material is now included on location-specific data sheets. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. | | |
| MW Treatment and Storage Tanks | 241-Z | 2001 | Tank D-9, Treatment chemicals | Tank D9 is in use to mix treatment chemicals. Treatment chemicals are in use in transferring waste from the Plutonium Finishing Plant to Double Shell Tanks. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. | | |

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| | | and the second s | ical List of Materials Deleted from Potential | Wilked waste lable. |
|--------------------------------------|--------------------------------------|--|--|--|
| Common Name or Description | Facility Number | East Calendar Year Reported in Table 1-4 | "Suuff"/Material Deleted | Reason for Deletion |
| Waste Handling Facility | 219-S | 2001 | Tank 103 and heel content | Combined with existing location-specific data sheet for the 219-S WHF. |
| 300-RRLWS | RRLWS | 2001 | Retired radioactive liquid waste sewer piping and ancillary structures might designate as MW. | Below-ground structure: Does not meet reporting criteria for Potential Mixed Waste Table. |
| 2706-T Conex Box | Conex box CC2W0136 and CC2W137 | 2001 | Various decontamination equipment, spill pallets, shipping coolers, carts, hoses, storage cabinets, and sampling equipment. | These conex boxes were opened and the contents visually verified and photographs taken. The photographs clearly demonstrate that the equipment is readily accessible. The equipment will be used in the future as part of the 2706-T Complex operations (e.g., decontamination, sampling, etc.). The photographs are maintained in the T Plant Complex operating record. |
| 224-T (Includes TRUSAF) | 224-T | 2001 | Liquid in the sumps and the deep cell. Two cardboard boxes in the cells. | Determined to not have a hazardous component, and therefore not a mixed waste. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. |
| C855 (CAT) Substation | 252U | 2001 | Transformer | The transformer has been designated and found not to have a dangerous component. Therefore, it is not mixed waste. |
| 324 | 324 | 2001 | Shielded glovebox. Potential mixed waste residue. Former Silver List Item 11.8 | Glovebox was included in the 4th quarter CY 2002 LDR storage assessment and determined to contain only floor sweeps. |
| 200 ETF | 2025E | 2001 | Thin film dryer rotor | Rotor was rebuilt for reuse at the 200 ETF. |
| 100 K Basins | 105-KW | 2001 | Lead bricks, sheets | The lead has been declared CERCLA waste. A location-specific data sheet was created. |
| Environmental Sciences Laboratory | 3720 | 2001 | Laboratory equipment, hoods and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities) | Onsite inspection revealed that contaminated equipment is in use. Hoods and gloveboxes listed are part of the structure of the building. |
| 100 C Reactor Facility | 105-C, 118-C-4 | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. |
| 100 D/DR Reactor Facility | 105-D, 105-DR, 117-DR, 190-DR | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. Waste forecasts are included in the 5-year projections on the location-specific data sheets. |
| 100 F Reactor Facility | [05-F | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. Waste forecasts are included in the 5-year projections on the location-specific data sheets. |

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| Common Name or Description | Facility Number | Last Calendar Year Reported in Table 1-4 | 'Stuff"/Material Deleted | Reason for Deletion |
|-------------------------------|--|--|--|---|
| 100 H Reactor Facility | 105-H, 1720-HA, 1713-H | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. Waste forecasts are included in the 5-year projections on the location-specific data sheets. |
| 100-N Reactor Facilities | See Table 1, S&M Plan for the 100-N Deactivated Facilities, DOE/RL-98-64, Rev. 0 | 2001 | Some remaining hazardous materials consisting of activated materials and fission products contained within the reactor block. (Further details are provided in DOE/RL-98-64, Rev. 0, S&M Plan for the 100-N Area Deactivated Facilities) | Reactor core is part of the structure of the building. Mixed waste was removed during the reactor decommissioning. |
| REDOX | 276-S-141/142 | 2001 | Tanks and heel content | The HSTF treatability group was developed to account for the 276-S-141/142 tanks. See Table 1-1. |
| Semi Works | 241-CX-70, 241-CX-71, 241-CX-72, 276-C | 2001 | Tanks and heel content | The 241-CX Tank System treatability group was developed to account for the 241-CX tanks. See Table 1-1 |

2.0 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL MIXED WASTE

The DOE conducts/oversees assessments of mixed waste storage areas and other areas that could, in the future, be the source of generation of other mixed waste. DOE assessments include reviewing other independent assessments and inspections and contractor self-assessments. In addition, daily, weekly, monthly, quarterly, and annual contractor assessments and inspections are conducted at Hanford Site mixed waste storage areas in accordance with company policy, DOE requirements, permit conditions, and other LDR storage obligations. The LDR storage assessment provides an additional level of review to address circumstances associated with mixed waste and potential mixed waste.

2.1 INTRODUCTION

Of the findings and observations that were made from DOE assessments in CY 2005, no indicators requiring global actions for LDR reporting were identified.

2.2 ASSESSMENT SCHEDULES

In CY 2005, DOE-RL contractors initiated and/or performed five assessments and completed three CY 2004 assessments. The findings and observations from these assessments are summarized in Table 2-1.

Table 2-1. Summary of DOE-RL Assessment Results.

| | Tuble 2 1. Summing of | | |
|-----------------------|-------------------------------------|------------------------|--|
| Assessment Location | Assessment Number | Assessment Start Dates | Findings and Observations |
| K Basin East | SNFP-ENV-04-MA-0101a | March 2004 | No findings and two observations ^{1,2} |
| K Basin West | SNFP-ENV-04-MA-0101c | March 2004 | No findings and one observation ³ |
| SNF Complex | SNFP-ENV-04-MA-0101b (KBC-26862) | March 2004 | No findings and one observation ⁴ |
| 2711E | HNF-26863 | March 2005 | None |
| 241-CX | Not assigned | March 2005 | As of December 31, 2005, the assessment report was not finalized |
| T Plant | Not assigned | October 2005 | As of December 31, 2005, the assessment report was not finalized |
| 200 Area North | Not assigned | December 2005 | As of December 31, 2005, the assessment report was not finalized |
| Railcar staging areas | Not assigned | December 2005 | As of December 31, 2005, the assessment report was not finalized |

¹ Observation: Delete the Location-Specific Data Sheet for the K-Basin lead under the ERDF-Treatment treatability group.

² Observation: Create a row for the 105-K East Facility in the PMW table to identify the PMW matrices.

³ Observation: Create a row or add to an existing row in the PMW table to identify the PMW matrix.

⁴ Observation: The lead in the back of the delivery truck will require reporting as PMW in the LDR. Report the matrix if it is not removed prior to December 31, 2005. If the lead is removed and dispositioned prior to this date, no reporting is required

Table 2-2 lists the locations where DOE-RL plans to conduct assessments in CYs 2006 through 2008.

Table 2-2. DOE-RL Assessments for CYs 2006 through 2008.

| Facility/Location | Start Date |
|---------------------------------------|--------------------------------|
| PFP settling tanks | 1st quarter CY 2006 |
| 231-Z | |
| IMUSTs not associated with a building | 2nd quarter CY 2006 |
| Heavy equipment staging area | 3rd quarter CY 2006 |
| 224-B | 4th quarter CY 2006 |
| 242-B/BL | 1 st quarter CY2007 |

IMUST = inactive miscellaneous underground storage tank

PFP = Plutonium Finishing Plant

Table 2-3 lists the DOE-ORP assessments performed by CH2M HILL and any identified findings and observations. No DOE-ORP assessments are currently scheduled. Post-2005 assessment of tank farm facilities will be negotiated with Ecology in LDR Project Manager Meetings, and documented in related meeting minutes.

Table 2-3. Summary of DOE-ORP Assessment Results.

| Assessment Location* | Assessment Number | Assessment Conduct Dates | Findings and Observations |
|--------------------------------|--------------------|-----------------------------|--|
| 241-A-702 and DSTs | FY2005-SPMA-S-0317 | 11/2004-12/2004 | One finding and one observation ^{1,2} . |
| 242-S and 242-T Evaporators | | | As of December 31, 2005, the assessment report was not finalized |

^{*} Not all findings and observations from these assessments are directly related to mixed waste storage compliance. Only those directly related are listed below.

¹ Finding: Two items of double-shell tank equipment were identified as "awaiting disposal" approximately 120 days after the contaminated equipment inventory inspection was completed, thus exceeding the 90-day storage limit. During the evaluation of this finding it was determined that one piece of equipment was directly reusable [camera] and that one piece of equipment was reusable as a source of parts [removed SY annulus exhauster]. The equipment was appropriately identified as reusable contaminated equipment.

² Observation: The contaminated equipment management practices procedure implementation can be strengthened by:
(1) Retention of negative determination for equipment to show issue was addressed, (2) Procedure improvements to provide sufficient guidance or address sections that are difficult to follow, and (3) Use of terminology in program documents that is consistent with terminology used by DOE and Ecology. This observation was made during the implementation period for the contaminated equipment. Subsequent to the implementation period an assessment of the effectiveness of the implementation was conducted [March 2005]. The assessment concluded that the procedure had been effectively implemented. Some actions to address legacy items in single-shell tank farms were on-going and a follow-up assessment was planned to address continued effectiveness once legacy item actions were completed.

3.0 SUMMARY OF CHARACTERIZATION INFORMATION

As part of generation of any waste, a generating unit must take steps necessary to confirm the proper management of this waste. This includes identifying proper radioactive classification, understanding the physical matrix, properly designating the waste, and, where applicable, identifying the appropriate underlying hazardous constituents. Types of information that can be used to characterize waste can include data from analysis of the waste and knowledge of the materials and/or processes used to generate the waste.

This section discusses and summarizes the waste treatability groups and the planned characterization activities for the waste. Waste must be sufficiently characterized so the waste can be stored and managed properly. In addition, waste must be sufficiently characterized before treatment to ensure that the proper treatment processes are applied and that the resultant treated waste meets LDR standards. Table 3-1 summarizes the planned characterization activities for each of the treatability groups. One column of information from Table 3-1 is reproduced in Table 1-2.

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| 1 aute 3-1. a | Summary of Characterization | | |
|----------------------------------|--|--|--|
| Treatability Group Name | Additional characterization activities | schedule | Related Tri-Party Agreement milestone |
| 221-T Containment Completed. | | Completed. | None. |
| 221-T Tank System | Additional characterization might be required to support with T Plant Complex Canyon disposition. | | None. |
| 222-S Laboratory Complex | Characterization performed as generated. | Ongoing. | None. |
| 222-S T8 Tunnel | As required to support cleanout of 222-S. | Will be done in conjunction with 222-S Laboratory building disposition. | None. |
| 241-CX Tank System | Additional characterization will be performed, as necessary, to support 200-IS-1 Operable Unit remedial decisions. | To be determined through development of 200-IS-1 documentation. | Major Milestone M-015-00 and interim Milestone M-020-54. |
| 324 Building REC Waste | No further characterization planned for transfer to ERDF. | Completed. | M-089-00, M-094-03. |
| 325 HWTU | Characterization performed as generated. | Ongoing. | M-094-00. |
| B Plant Cell 4 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | None. |
| B Plant Containment Building | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | None. |
| Cesium and Strontium Capsules | None. | Completed. | M-092-05. |
| DST Waste | Additional information could be required. | Ongoing. | M-050, M-051, M-061, M-062, M-090. |

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| | Summary of Characterization Additional characterization | | Related Tri-Party |
|-------------------------|---|--|--|
| Treatability Group Name | activities | schedule | Agreement milestone |
| ERDF – Treatment | Characterized as generated. | Ongoing. | None. |
| ERDF – Heatment | Treatment and disposal are | Ongonig. | None. |
| | performed under CERCLA | | |
| | decision documents and | | |
| | treatment plans. | | |
| HSTF | Additional characterization | To be determined through | Major Milestone M-015-00. |
| 772.7. | will be performed, as | development of 200-IS-1 | iviajoi iviirestone ivi-013-00. |
| | necessary, to support removal | documentation. | |
| • | of the tanks as part of | documentation. | |
| | 200-IS-1 Operable Unit | | |
| | activities. | | in Address of the Control of the Con |
| LERF/ETF Liquid Waste | Characterization performed as | Ongoing | None. |
| LERIVETT Enquir waste | generated. | Ongoing. | None. |
| MLLW-01 – LDR | Characterization performed as | Completed | None |
| Compliant Waste | generated ¹ . | Completed. | None |
| MLLW-02 – Inorganic | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| Non-Debris | treatment facility waste | 111-071-72. | 1111-U21-72 . |
| Non-Debits | acceptance criteria ¹ . | | |
| MLLW-03 – Organic | As necessary to meet | M-091-12, M-091-12A, and | M-091-12, M-091-12A, and |
| Non-Debris | treatment facility waste | $M-091-12^2$. | $M-091-12$, $M-091-12A$, and $M-091-42^2$. |
| TON-DOMES | acceptance criteria. | 10091-42 . | 141-091-42 |
| MLLW-04A – O/C | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| Hazardous Debris | treatment facility waste | 171-031-42 . | 101-091-42 |
| The articles (See 1) | acceptance criteria. | | |
| MLLW-04B - Non-O/C | As necessary to meet | M-091-42 ² . | M-091-42 ² |
| Hazardous Debris | treatment facility waste | 171-071-42 | 141-071-72 |
| | acceptance criteria. | and delication of the second s | |
| MLLW-05 - Radioactive | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| Lead Solids | treatment facility waste | | 111 051 12 1 |
| | acceptance criteria ¹ . | manufacture and a second and a | |
| MLLW-06 –Mercury | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| Wastes | treatment facility waste | | |
| | acceptance criteria. | of the state of | |
| MLLW-07 - RH and Large | As necessary to meet | M-091-15 and M-091-43 ² . | M-091-15 and M-091-43 ² . |
| Container | treatment facility waste | The same of the sa | |
| | acceptance criteria. | Brata | |
| MLLW-08 – Unique Waste | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| _ | treatment facility waste | | |
| | acceptance criteria ¹ . | Mahaha Kara | |
| MLLW-09 – Radioactive | As necessary to meet | M-091-42 ² . | M-091-42 ² . |
| Batteries | treatment facility waste | de la | |
| | acceptance criteria ¹ . | | |
| MLLW-10 – Reactive | As necessary to meet | M-091-42 ² . | $M-091-42^2$. |
| Metals | treatment facility waste | | |
| | acceptance criteria ¹ . | | |
| PUREX Plant | To be determined via | To be determined via | None. |
| | Tri-Party Agreement Action | Tri-Party Agreement Action | |
| | Plan, Section 8.0 | Plan, Section 8.0 | - Taranti Ind |
| PUREX Storage Tunnels | To be determined in | To be determined via | None. |
| | conjunction with PUREX | Tri-Party Agreement Action | |
| | | Plan, Section 8.0. | |
| | closure plan. | | |

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| Treatability Group Name | Additional characterization activities | Planned characterization schedule | Related Tri-Party Agreement milestone |
|--------------------------------|--|-----------------------------------|--|
| Purgewater | Characterization performed as generated. | Ongoing. | None. Addressed in Appendix F of the Tri-Party Agreement (WHC-MR-0039). |
| SST Waste | Further information may be required. | Ongoing. | M-045, M-050, M-051, M-061, M-062, M-090. |
| TRUM-CH Standard Processing | As necessary to meet WIPP waste acceptance criteria. | M-091-42 ² . | M-091-42 ² . |
| TRUM-CH Special Processing | As necessary to meet WIPP waste acceptance criteria. | M-091-44 ² . | M-091-44 ² . |
| TRUM-RH | As necessary to meet WIPP waste acceptance criteria. | M-091-44 ² . | M-091-44 ² . |

Newly generated waste in these categories is fully characterized as generated. For waste in inventory before 1995, existing TSD record information will be reviewed and characterization corrections will be made as necessary based on existing acceptable knowledge.

² Characterization is anticipated to be performed as necessary to meet M-091 milestones.

| CERCLA | Comprehensive Environmental Response, | RCRA | Resource Conservation and Recovery Act of |
|--------|--|------|---|
| | Compensation, and Liability Act | | 1976 |
| CH | contact handled | REC | Radiochemical engineering cell |
| DST | double-shell tank | RH | remote handled |
| ERDF | Environmental Restoration Disposal Facility | SST | single-shell tank |
| HWTU | Hazardous Waste Treatment Unit | TRUM | transuranic mixed |
| LDR | land disposal restrictions | TSD | treatment, storage, and/or disposal |
| MLLW | mixed low-level waste | WESF | Waste Encapsulation and Storage Facility |
| O/C | organic/carbonaceous | WIPP | Waste Isolation Pilot Plant |
| PCB | polychlorinated biphenyl | WRAP | Waste Receiving and Processing Facility |
| PUREX | plutonium-uranium extraction (facility or process) | | - - |

This page intentionally left blank.

4.0 SUMMARY OF TREATMENT INFORMATION

This section summarizes the treatment information associated with the treatability groups and the volume of waste that will be treated as identified in Table 4-1. Certain information from Table 4-1 is reproduced in Table 1-2.

Table 4-1. Summary of Treatment Information for Each Treatability Group.

| the second secon | Table 4-1. Summ | ary or ricatii | | II IOI L'ACH TICAL | admity Group. | |
|--|--|-------------------------------------|---|--|--|--|
| Treatability group name | Treatment process | Volume currently stored (m³)¹ | Projected generation volume 2006 through 2010 (m³)¹ | Projected volume to be treated 2006 through 2010 (m ³) ¹ | Planned treatment period | Tri-Party Agreement milestone |
| 221-T Containment Building | Not yet determined | 58 | 0 | 0 | 2025 | None |
| 221-T Tank System | Not yet determined. | 12 | 0 | 0 | 2025 | None. |
| 222-S Laboratory Complex | Commercial-Stabilization, Commercial -Thermal. | 8.7 | 45 | 54 | 2035 | None. |
| 222-S T8 Tunnel | Not yet determined. | 0.2 | 0 | 0 | 2033 | None. |
| 241-CX Tank System | Not yet determined. | 3.0 | 0 | 0 | To be determined through development of 200-IS-1 documentation. | M-015-00 |
| 324 Building REC Waste | As necessary, ERDF macroencapsulation | 5.0 | 10 | 0 | In accordance with schedules established under M-094 milestones | M-089-00, M-094-03. |
| 325HWTU | HWTU, Commercial-Stabilization, Commercial -Thermal. | 8.3 | - 20 | 28 | Through 2011 | M-094-00 |
| B Plant Cell 4 | Not yet determined. | 1.4 | 0 | 0 | In accordance with Tri-Party Agreement Action Plan, Section 8.0. | None. |
| B Plant Containment Building | Not yet determined. | 290,000 kilograms | 0 | 0 | In accordance with Tri-Party Agreement Action Plan, Section 8.0. | None. |
| Cesium and Strontium Capsules | Not yet determined. | 2.0 | 0 | 0 | Treatment options are still being assessed. | M-092-05. |
| DST Waste | WTP vitrification. | 98,000 | 190 | 0 | 2011-2028. | M-050, M-051, M-061, M-062, and M-090. |
| ERDF Treatment | ERDF treatment. | 83 | 63,000 | 63,000 | Through 2035. | None. Treatment and disposal are performed under a CERCLA decision document and treatment plans. |
| HSTF | Not yet determined. | 2.1 | 0 | 0 | To be determined through development of 200-1S-1 documentation. | M-015-00. |
| LERF/ETF Liquid Waste | ETF. | 37,000 | 340,000 | 340,000 | Through 2032. | M-026-07A, B, C. |

| A Commission of the Commission | Table 4-1. Summa | | Projected | | | · |
|--|--|--|--|--|---|--|
| Treatability group name | Treatment process | Volume currently stored (m ³) ¹ | generation volume 2006 through 2010 (m³) ¹ | Projected volume to be treated 2006 through 2010 (m ³) ¹ | Planned treatment period | Tri-Party Agreement milestone |
| MLLW-01 – LDR-Compliant Waste | No treatment required. | 210 | 150 | No treatment required. | NA | None. |
| MLLW-02 — Inorganic Non-Debris | Commercial-Stabilization. | 280 | 25 | 3105 | M-091-42 ² . | M-091-42 ² . |
| MLLW-03 – Organic Non-Debris | Commercial-Thermal. | 940 | 48 | 1,200 ⁵ | M-091-42 ² . | M-091-12A, M-091-12, and M-091-42 ² . |
| MLLW-04A — O/C Hazardous Debris | Commercial-Macroencapsulation | 4,100 | 250 | 4,400 ⁵ | M-091-42 ² . | M-091-42 ² . |
| MLLW-04B — Non-O/C Hazardous Debris | Commercial-Macroencapsulation | 15 | 0.8 | See MLLW-04A | M-091-42 ² . | M-091-42 ² . |
| MLLW-05 — Radioactive Lead Solids | Commercial-Macroencapsulation | 16 | 1.5 | See MLLW-04A | M-091-42 ² . | M-091-42 ² . |
| MLLW-06 – Mercury Wastes | Commercial-Amalgamation. | 16 | 0.72 | 70 ⁵ | M-091-42 ² . | $M-091-42^2$. |
| MLLW-07 – RH and Large Container | M-091 MLLW. | 2,900 | 0 | 740 ⁵ | M-091-15 and M-091-43 ² . | |
| MLLW-08 – Unique Waste | Not yet determined. | 21 | 0 | See MLLW-06 | $M-091-42^2$. | M-091-42 ² . |
| | Commercial-Macroencapsu- lation | 13 | 0.72 | | M-091-42 ² . | M-091-42 ² . |
| MLLW-10 – Reactive Metals | Not yet determined. | 26 | 0.004 | See MLLW-06 | M-091-42 ² . | M-091-42 ² . |
| PUREX Plant | Not yet determined. | 1.0 | 0 | | In accordance with Tri-Party Agreement Action Plan, Section 8.0 | None. |
| PUREX Storage Tunnels | Not yet determined. | 2,800 | 0 | | Coordinated with PUREX Plant waste. | None. |
| Purgewater | Solar evaporation at PSTF and ETF treatment. | 3,700 | 10,000 | 14,000 | Ongoing. | None. |
| SST Waste | WTP ⁴ vitrification. | 11,000 | . 0 | 04 | 2011-2028. | M-050, M-051, M-061, M-062, and M-090. |
| FRUM-CH Standard Processing | WRAP Facility and/or T Plant Complex. | 3,400 | 55 | | Before WIPP closure (~2034). | M-091-42 ² . |
| | M-091 TRUM. | 4,900 | 6.4 | | M-091-44 ² . | M-091-44 ² . |
| | M-091 TRUM. | 230 | 5.0 | | M-091-44 ² . | M-091-44 ² . |

¹Volume numbers in this table have been rounded to two significant figures.

Table 4-1. Summary of Treatment Information for Each Treatability Group.

| | | | Projected | Projected volume | | |
|-----------------------------|-------------------|------------------------------------|-----------------------------|------------------------|--------------------------|---------------------|
| Though Hiter and the second | T | Volume | generation | to be treated | | Tri-Party Agreement |
| Treatability group name | Treatment process | currently stored (m ³) | volume 2006 through 2010 | 2006 through | Planned treatment period | milestone |
| | |) (III) | $(m^3)^1$ | $2010 (\text{m}^3)^1$ | | |

²Treatment is anticipated to be performed as necessary to meet M-091 milestones.

⁴ Some SSTs may classify as TRU, not high-level. If so, these would be expected to follow a different treatment path.
⁵ Volumes reflect FY2006-FY009 numbers. MLLW-04A, MLLW-04B, and MLLW-05 numbers are grouped together. MLLW-06, MLLW-08, MLLW-09, and MLLW-10 as also grouped together.

| CH | contact handled | PCB | polychlorinated biphenyls |
|------|---|-----------|--|
| DST | double-shell tank | PSTF | Purgewater Storage and Treatment Facility |
| ERDF | Environmental Restoration Disposal Facility | PUREX REC | plutonium-uranium extraction (facility or process) |
| ETF | 200 Area Effluent Treatment Facility | RH | radiochemical engineering cell |
| HSTF | Hexone Storage and Treatment Facility | SST | remote handled |
| HWTU | Hazardous Waste Treatment Unit | TRUM | single-shell tank |
| LDR | land disposal restriction | WIPP | transuranic mixed |
| LERF | Liquid Effluent Treatment Facility | WRAP | Waste Isolation Pilot Plant |
| MLLW | mixed low-level waste | WTP | Waste Receiving and Processing Facility |
| O/C | organic/carbonaceous | | Waste Treatment Plant |

³2035 is taken as the end of waste processing activities onsite.

5.0 STORAGE VOLUME AND CONTAINER NUMBERS FOR SELECTED STORAGE LOCATIONS

This section contains information on the volume in storage and the numbers of containers in storage for a number of Hanford Site locations. These locations are identified in the Tri-Party Agreement milestone description for M-026-01P.

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford | Treatability group | Waste stream | Storage | Number of |
|--------------------|--------------------------------------|--|-----------|-------------|
| Site | | | Volume | containers |
| location | | | $(m^3)^1$ | |
| 200 ETF | MLLW-01 – LDR Compliant | RCRA Powder, LDR | 15 | 71 |
| | Waste | Compliant | | |
| | MLLW-02 - Inorganic Non-Debris | RCRA Powder, Inorganic | 0.2 | 1 |
| | | Non-Debris Non-LDR | | |
| | | Compliant | 2.0 | |
| 17. mm | MLLW-04A - O/C Hazardous Debris | Acid O/C Hazardous Debris | 0.6 | 3 |
| | MLLW-04A - O/C Hazardous | RCRA O/C Hazardous | 7.3 | 8 |
| | Debris | Debris | | |
| 222-S | 222-S Laboratory Complex | Containerized mixed waste | 8.7 | 145 |
| | 222-S T8 Tunnel | T8 Tunnel RH-MLLW | 0.2 | N/A - Pile |
| | DST Waste | Bulk Aqueous Liquids | 15 | N/A - Tanks |
| | TRUM-CH Standard Processing | TRUM-CH | 1 | 0.21 |
| 324 | 324 Building REC Waste | Radiochemical Engineering Cells | 5 | N/A - Tanks |
| 327 | TRUM-CH Special Processing | Cation Exchange Column | 0 | 0 |
| 325 | 325 HWTU | 325 HWTU | 8.3 | 222 |
| HWTU | MLLW-07 - RH and Large | MLLW-07 RH | 0.008 | 3 |
| | Container | · | | |
| | TRUM-CH Standard Processing | TRUM-CH | 1.2 | 41 |
| | TRUM - RH | TRUM-RH | 0.84 | 4 |
| CWC | MLLW-01 – LDR Compliant Waste | LDR compliant | 190 | 428 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris Solids and Labpacks | 270 | 1,259 |
| mi da Carata Maria | MLLW-03 - Organic Non-Debris | Organic Non-Debris Solids and Labpacks | 780 | 3,318 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 1,100 | 3,733 |
| | MLLW-04B - Non-O/C Hazardous | Non-O/C Inorganic | 12 | 41 |
| | Debris | Hazardous Debris | | |
| | MLLW-05 – Radioactive Lead Solids | Elemental Lead | 12 | 58 |
| | MLLW-06 - Mercury Wastes | Elemental Mercury | 15 | 77 |
| | MLLW-07 - RH and Large Container | MLLW-07 | 270 | 46 |
| | MLLW-08 - Unique Waste | Unique Waste | 1.1 | 5 |

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford Site | Treatability group | Waste stream | Storage Volume (m³) ¹ | Number of containers |
|-----------------|---|--|--|----------------------------------|
| location | | m o can u | | 59 |
| | MLLW-09 – Radioactive Batteries | Pb & Cd Batteries | 12 | 62 |
| | MLLW-10 - Reactive Metals | Alkali Metals | 26 | 1 |
| | TRUM-CH Standard Processing | CHTRUM | 540 | 2,547 |
| 1. | TRUM-CH Special Processing | TRUM Boxes | 1,600 | 1,792 |
| 1. 7. 11.5 | TRUM - RH | RH TRUM | 110 | 125 |
| $LLBG^2$ | LERF/ETF Liquid Waste | TR34 and TR31 Leachate | 0 | N/A - Tanks |
| | MLLW-03 - Organic Non-Debris | MLLW Retrieval Organic Non-Debris | ~150 | ~600 |
| | MLLW-04A - O/C Hazardous Debris | MLLW Retrieval Debris | ~2,900 | ~11,400 |
| | MLLW-07 - RH and Large Container | MLLW-07 | ~2,600 | ~300 |
| | TRUM-CH Standard Processing | TRUM Retrieval | ~2,500 | ~11,700 |
| , | TRUM-CH Special Processing | TRUM Retrieval Boxes | ~3,200 | ~400 |
| | TRUM - RH | RH TRUM | ~110 | ~200 |
| PFP | MLLW-01 – LDR Compliant Waste | Lab Chemicals/Reagents, LDR Compliant | 0 | 0 |
| | MLLW-02 - Inorganic Non-Debris | Laboratory Chemical | 0 | 0 |
| | 101 Biologian 1 (01 Biologian | Wastes, Inorganic Non-Debris | | |
| | MLLW-03 - Organic Non-Debris | Lab Chemicals/Waste, Organic Non-Debris | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | Operations and D&D Wastes O/C Hazardous Debris | 0 | 0 |
| | MLLW-05 – Radioactive Lead Solids | Elemental Lead | 0 | 0 |
| | MLLW-06 - Mercury Wastes | Hg, Elemental | 0 | 0 |
| | MLLW-09 - Radioactive Batteries | Batteries, Lead | 0 | 0 |
| | TRUM-CH Standard Processing | Lead Lined Containers | 0 | 0 |
| | TRUM-CH Standard Processing | Legacy Holdup Waste | 0 | 0 |
| * | TRUM-CH Standard Processing | TRUM Debris | 0 | 0 |
| | ERDF—Treatment | CERCLA Mixed Waste | 2.5 | 12 |
| T Plant | 221-T Containment Building | 221-T Containment Building | 58 | N/A – Containment Building |
| | 221-T Tank System | RCRA Tank System | 12 | N/A - Tanks |
| | LERF/ETF Liquid Waste | 2706-T Tank System | 0.73 | N/A - Tanks |
| | MLLW-01 – LDR Compliant Waste | LDR Compliant | 1.4 | 5 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris | 0.5 | 2 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 8.1 | 39 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 24 | 19 |
| | MLLW-04B - Non-O/C Hazardous Debris | Non-O/C Hazardous Debris | 2.5 | 12 |

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford Site location | Treatability group | Waste stream | Storage Volume (m³)¹ | Number of containers |
|-----------------------------|--|---------------------------------------|----------------------------|----------------------|
| | MLLW-08 - Unique Waste | MW Requiring Special Processing | 19 | 4 |
| 1.76 | MLLW-09 - Radioactive Batteries | Radioactive Batteries | 0.2 | 1 |
| | MLLW-10 - Reactive Metals | Alkali Metals | 0.2 | 1 |
| | TRUM-CH Standard Processing | TRUM-CH | 44 | 210 |
| | TRUM-CH Special Processing | TRUM Box | 56 | 49 |
| | TRUM-RH | TRUM-RH | 18 | 12 |
| WRAP | MLLW-01 – LDR Compliant Waste | LDR Compliant | 0.86 | 5 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris | 0.2 | 2 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 0.7 | 4 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 3.1 | 14 |
| | MLLW-04B - Non-O/C Hazardous Debris | Non-O/C Inorganic Hazardous Debris | 0.2 | 1 |
| | MLLW-08 - Unique Waste | Unique Waste | 0.2 | 1 |
| | TRUM-CH Standard Processing | TRUM-CH | 340 | 1,604 |
| | TRUM-CH Special Processing | TRUM - Large Container | 43 | 95 |
| 1.40 | TRUM-RH | TRUM-RH | 1.5 | 7 |
| WSCF | LERF/ETF Liquid Waste | LERF/ETF | 0 | 0 |
| | MILLW-02 - Inorganic Non-Debris | Inorganic Non-Debris | 0 | 0 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 0 | 0 |

¹=If zero is indicated, the reported mixed waste is forecasted to be generated or is being managed in a generator location (SAA or 90-day accumulation area). Values are rounded to 2-significant figures.

²= The storage volume for MLLW and TRUM treatability groups were estimated based on past retrieval activities and review of burial records. The number of containers was estimated based on a 50-50 split between MLLW and TRUM.

| CERCLA | Comprehensive Environmental Response, | MLLW | mixed low-level waste |
|--------|---|------|--|
| | Compensation, and Liability Act | O/C | organic/carbonaceous |
| CH | contact handled | PFP | Plutonium Finishing Plant |
| D&D | decontamination & decommissioning | RCRA | Resource Conservation and Recovery Act |
| DST | double-shell tank | REC | Radiochemical Engineering Cell |
| ETF | Effluent Treatment Facility | RH | remote handled |
| ERDF | Environmental Restoration Disposal Facility | SAA | satellite accumulation area |
| HWTU | Hazardous Waste Treatment Unit | TR | trench |
| LDR | land disposal restriction | TRUM | transuranic mixed |
| LERF | Liquid Effluent Retention Facility | WSCF | Waste Sampling and Characterization Facility |
| LLBG | Low-Level Burial Grounds | WRAP | Waste Receiving and Processing |

6.0 REFERENCES

- DOE/RL-98-19, 1999, Surveillance and Maintenance Plan for the 202-S Reduction Oxidation (REDOX) Facility, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-20, 2000, Surveillance and Maintenance Plan for the 221-U Facility (U Plant), Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-22, 1999, Surveillance and Maintenance Plan for the Uranium Trioxide (UO₃) Facility, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-35, 1998, Surveillance and Maintenance Plan for the Plutonium Uranium Extraction (PUREX) Facility, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-64, 1998, Surveillance and Maintenance Plan for the 100-N Deactivated Facilities, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-99-24, 1999, Surveillance and Maintenance Plan for the 221-B Facility (B-Plant), Rev. 0, U.S. Department of Energy, Richland, Washington.
- DOE/WIPP-069, Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Rev. 7, U.S. Department of Energy, Carlsbad Field Office, Carlsbad, New Mexico, available at http://www.wipp.carlsbad.nm.us/library/wac/chwac.pdf.
- Ecology, EPA, and DOE, 2003a, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington, updated periodically.
- Ecology, DOE-ORP, and DOE-RL, 2003b, "M-026 LDR Report Project Manager Meeting Minutes", February 6, 2003, Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office.
- Ecology, DOE-ORP, and DOE-RL, 2006, "M-026 LDR Report Project Manager Meeting Minutes", January 17, 2006, Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office.
- EPA, 1990, Guidance on the Land Disposal Restrictions' Effect on Storage and Disposal of Commercial Mixed Waste, Directive #9555.00-01, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.
- WAC 173-303, Washington Administrative Code, Dangerous Waste Regulations, State of Washington Department of Ecology, Olympia, WA
- WHC-MR-0039, Strategy for Handling and Disposing of Purgewater at the Hanford Site, Washington, Westinghouse Hanford Company, Richland, Washington, available at (http://www.rl.gov/docs/wa7890008967/att05/Attachment 05.PDF).

This page intentionally left blank.